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FIG. 1.—Part of a Mace-head found by Mr. J. E. Quibell at Hierakonpolis in 1897-8, showing one of the Earliest Kings of Egypt Engaged in the Task of Cutting an Irrigation Canal. Circa 3400 B.C. (After J. E. Quibell.)

Civilization received its most distinctive impress from the fact that the man who organized irrigation and agriculture became the first king in the history of the world and when he died was apotheosized to become the first god.

[Frontispiece.

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IN THE BEGINNING

THE ORIGIN OF CIVILIZATION

BY

PROF. G. ELLIOT SMITH

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INTRODUCTION

RECENT discoveries have established the fact that the years of man's career must be estimated in hundreds of thousands, and probably even more than a million. Since my little book on *The Search for Man's Ancestors* was published a few months ago it has been found that the earliest members of the human family were already putting to practical use their distinctively human qualities of skill and understanding by making implements of stone and bone and using fire. Yet these human aptitudes were not put to their fullest use until a mere sixty centuries ago, when the vastest revolution ever effected in human history, the creation of civilization, suddenly transformed man's mode of living, his occupations, thoughts, and aspirations. This book is concerned not with man's emergence in the remote past, but with the origin of civilization in comparatively recent times.

It is important not to minimize the essential difference between man and other living creatures. The vast enhancement of visual and other kinds of sensory discrimination enabled man to see, and in some measure interpret, the world in which he lives, and to acquire muscular skill to give useful expression to this fuller understanding. The most significant change, however, was man's use of these newly acquired abilities to devise the power of speech. Hence it became incumbent on every human child to learn the symbolism of language, and in doing so

to participate in the accumulated knowledge and superstitions of the community in which he grew up. Thus every human being became subjected to the increasing domination of traditions of thought and behaviour, which had been handed down from former generations.

In virtue of these considerations, man differs from all other living creatures in the extent of his dependence upon others for the knowledge of how to live and what to think. For the diffusion of culture is a necessary and unavoidable factor in human behaviour.

As man was content to roam the earth for hundreds of thousands of years without making any attempt to embark upon those pursuits which we regard as distinctive of civilization, we can put aside as untenable the widespread idea that any group of men would almost instinctively have invented agriculture, architecture, and the various artificial customs and beliefs that form an integral part of civilization. For during the vast stretch of time in which men of every race must on innumerable occasions have faced the prospect of starvation and felt the need of protection from the elements, there is no evidence to suggest that they faced the problems of increasing the food supply or of building houses. They were content to spend their days in searching for food and enduring an existence devoid of the comforts we have learned to regard as necessities.

Then suddenly one group abandoned the nomadic life and settled down to cultivate barley, to breed cattle and geese, to build houses and congregate in villages, to make linen and invent clothing, to use metals, and invent the crafts of the carpenter and stone-mason, and the arts of architecture and ship-building, to speculate on the regimen of the river

and the influence of the heavenly bodies, which seemed to affect their agricultural operations and their prosperity. As the result of their musings, they devised theories to guide their actions, and gradually there emerged the kingship and its apotheosis in the idea of a super-king or god, with political, social, and religious organizations. Hence the simple freedom of the nomadic life was replaced by the State, in which every individual became little more than a puppet in a system centred in and controlled by an omnipotent king.

In studying the origin of civilization, however interesting the evolution of the individual ingredients may be—agriculture, metallurgy, architecture, ship-building, weaving, mummification, the kingship and politics, religion and priestcraft—the important matter for inquiry is the process of weaving these varied threads into the complex fabric we call the State.

The *Frontispiece* is a symbolic picture of the Beginning of Civilization. The conception of the earliest king as a farmer, who at a later period of Egyptian history received the title "Son of the Sun," spread, like the latter, throughout the world wherever civilization was adopted. Five examples may serve to illustrate this diffusion. In the *Mythology of All Nations* (1918) Sir George Scott says: "According to Chinese historians, in the most ancient days it was the custom for the Son of Heaven, the Emperor himself, with his own hand to plough a special plot of ground when the rainy season was about to set in." This custom was preserved in China until the downfall of the Empire in 1911, and is still observed in Japan. In Burma this "Gracious Ploughing" was not abandoned until the recent reign of King Thibaw. According to James Hornell (*Madras Fisheries Publication*, 1914) it

is still observed in Siam with a remarkable ceremonial, part of the ritual of which is represented on the other side of the Pacific in a Precolumbian manuscript from Mexico. This illustration of the transference of Indo-Chinese culture to America has been cited by Dr. Wilfrid Jackson in his book *Shells as Evidence of the Migration of Early Culture* (1917, see Fig. 6 in the Plate facing p. 52).

Many other instances from distant parts of the world might be quoted, but these are sufficient to emphasize the reality of the world-wide diffusion of the original conception of the king as a farmer, and of the distinctive act which inaugurated the earliest civilization.

BIBLIOGRAPHICAL NOTE

The first edition of this book was written as an introduction to a series of books which provided an account of the evidence and bibliography of special parts of the general theme, *The Origin of Things*.

NEW YEAR'S DAY

The Story of the Calendar S. H. HOOKE

CORN FROM EGYPT

The Beginning of Agriculture M. GOMPERTZ

ANCIENT MARINERS

The Story of Ships and Sea Routes C. DARYLL FORDE

GODS AND MEN

The Attainment of Immortality W. J. PERRY

THE GOLDEN AGE

The Story of Human Nature H. J. MASSINGHAM

FIRST PLAY

The Origin of Drama IVOR BROWN

POTS AND PANS

The History of Ceramics H. S. HARRISON

HERE WE GO ROUND

The Story of the Dance EVELYN SHARP

In addition to these works the following books may be consulted :—

BREASTED, JAMES H. *The Conquest of Civilization*. 1926.

BURY, J. B. *The Idea of Progress*. 1920.

ELLIOT SMITH, G. *The Evolution of the Dragon*. 1919.

ELLIOT SMITH, G. *The Ancient Egyptians*. 1923.

ELLIOT SMITH, G. *Human History*. 1930.

HOCART, A. M. *Kingship*. 1927.

HOSE, CHARLES. *Natural Man*. 1926.

PERRY, W. J. *Children of the Sun*. 1923.

TYLOR, E. B. *The Early History of Mankind*. 1865.

TYLOR, E. B. *Primitive Culture*. 1871.

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CHAPTER I

PAST AND PRESENT

"The notion of the continuity of civilization is no barren philosophic principle, but is at once made practical by the consideration that they who wish to understand their own lives ought to know the stages through which their opinions and habits have become what they are."

SIR EDWARD TYLOR (1871).

It is hardly necessary to insist upon the rapid transformation of the conditions of life that has been effected in the experience of ourselves or those of our forbears—parents and grandparents—with whom we have been personally acquainted. The development of wireless telegraphy and telephony, following on the world-wide adoption of ordinary telegraphy and telephony, has brought the whole world into intimate contact. The innumerable applications of electricity have transformed almost every aspect of our daily lives. The recent growth of rapid means of locomotion by land, sea, and air, which resulted from the invention of the internal-combustion engine, is apt to make us forget the magnitude of the revolution effected only a century ago when the application of steam-engines to locomotion by land and sea and to the driving of industrial machinery revolutionized the conditions of life and intercourse throughout the civilized world. The practical applications of steam and electricity have profoundly altered the circumstances of all our lives, and placed at the service of every one of us at any moment the material and intellectual resources of the whole world.

Moreover, they afford a multitude of illustrations of the diffusion of culture. An inventor picks up the strands of knowledge and ideas of his predecessors and weaves them into a fabric adapted for special use in the new circumstances of his time. Then the results of his work are adopted and used by an increasing number of peoples of various races and cultures throughout the world. This is the fundamental process which affords the only rational explanation of the history of civilization.

If these great achievements are the work of only one century, they represent the culmination of forces that had been at work for more than twenty centuries before. If the steam-engine which was invented in 120 B.C. by Hero of Alexandria seemed for a time to be a mere useless toy, the knowledge thereby gained was not wholly lost. Seventeen centuries later Branca and others were inspired by the Greek experiments to devise other types of steam-driven toys: and in course of time Worcester, Savery, Papin, Newcomen, and Watt, as the outcome of a century's intensive research, devised a practical steam-engine that was of economic value.

The old ideas, however, had to wait for special times and circumstances before they could be forced into social service and for a series of enlightened and determined men of genius to realize and exploit their great possibilities. Invention is not an isolated phenomenon in the history of civilization. Even the simplest advance represents the interweaving of many threads of knowledge that took centuries or thousands of years to spin. The enormous complexity of the process and the fact that a progressive development is built on the foundations of the accumulated knowledge of the whole world of

civilization are fatal to the common opinion that significant inventions can be made independently.

Stated in these general terms, this claim invariably arouses opposition. But if the principle itself is questioned, an investigation of the actual history of any invention—and we have hundreds of records of such concrete instances—affords a positive demonstration of its truth.

The history of the steam-engine and motor-car, of the telegraph and wireless telephony, are merely modern instances of a process that has been in operation for more than fifty centuries.

We have historical records of the origins of many of the elements of our own culture; and in several cases know every detail of the process of invention and of the struggles of the pioneers to persuade their contemporaries to recognize and adopt their innovations, which to us at present seem so obvious and inevitable. Innumerable books have been written (after the manner of Smiles's *Self-Help*) to expound these epic stories to youthful readers. But when we consider the evidence that is now available concerning the time and circumstances in which inventions, of which we have no written records, were made, it is surely not an impossible task to infer the modes of their origin and diffusion. If Darwin did not hesitate to discuss the Origin of Species—an incredibly complex process extending over countless millions of years and involving factors of which we as yet know little or nothing—surely the student of mankind cannot be charged with undue recklessness if he attempts to reconstruct the history of a mere fifty centuries of human activity, dealing with factors which are simple and definite in nature in comparison with the

elusive processes that cause transformations of living organisms.

Perhaps a concrete illustration will clear away some of the difficulties that are magnified in scholastic discussions of the history of culture.

Everyone is familiar with the vast revolution in human affairs that has been effected in the last half-century—not merely in economic and industrial spheres, but also in philosophical speculations affecting the nature of matter and the forces that control the universe. We know the history of these things, the names of the men who made that history, and the circumstances under which their discoveries were made. The centenary of Volta was celebrated at Como in 1927. The work of Faraday and Clerk Maxwell in preparing the way for tremendous modern developments is known to every schoolboy. We use electricity for driving trains and giving us light, for linking us by manifold bonds of communication with the whole world, and for doing a thousand and one other things. But the fact that we know something of the series of inventors who conferred these boons upon us should not lead us to ignore the knowledge possessed by the Greeks of the peculiar properties of amber and the loadstone, or forget the researches of that brilliant physician, Gilbert, who three centuries ago began the serious investigation of magnetism.

Moreover, we know that the complex process of invention happened only once and that there is no hint of independent development. An electrical machine made in Japan, even though it displays unmistakable signs of the place of its manufacture, affords evidence not of original and independent invention, but of diffusion from the country where Faraday's inspiration first found expression.

We know the history of the origin of our knowledge of electricity and magnetism, as we do that of the steam-engine and of parliamentary government, and scores of other industrial processes and social institutions, of which we have the written records. But learning from these concrete examples the usual process of invention and the modes of progress, we are able confidently to interpret the evidence relating to still earlier events of which we have no written histories. Although Mr. A. M. Hocart is pessimistic of the possibilities of discovering the origins of social practices, his own great treatise does, in fact, provide most of the material for explaining the origin of *The Kingship*, and the rest is readily accessible in the Egyptian records, which he has omitted. But even if the evidence were less complete, it would be childish to renounce the aim of all inquiry and deny ourselves the chief interest in research by eliminating the possibility of discovering origins. Even if we cannot wholly realize our aim, the discovery of the origin of things should be the ultimate object of all ethnological research.

We are apt to forget the extent of our debt to antiquity and the all-pervading influence of our great heritage. At every moment of our lives events that happened centuries, and in many cases thousands of years, ago in distant parts of the world are shaping our behaviour and intimately affecting our innermost thoughts, in particular our attitude to the modern events around us. We *are part of* the great social current formed of a multitude of intermingling streams that have come down from remote ages and distant lands to carry us along with it.

Here I am at twelve o'clock on January the first trying to put upon paper symbols to express in the

English language my thoughts on The Beginning of Things.

My ideas and feelings at the moment are determined by a great variety of factors, most of which perhaps would not have had the slightest interest or significance to primitive men still free from the fetters of civilization. My motives for spending my time in the laborious task of writing would be as unintelligible to him as the written symbols I am forming and the ideas to which I am trying to give expression. This action and all the sentiments that play a part in it are the product of the social heritage of that civilization the creation of which it is the aim of this book to elucidate.

Leaving aside the consideration of the way in which the history of the world in general during the past sixty centuries is affecting my individual outlook, moral and intellectual, at the present time, let us glance for a moment at its influence upon the more mechanical factors involved in my behaviour.

While I was writing the preceding paragraphs, for the sake of greater accuracy, as the old parliamentary usage expresses it, I looked up to the mantelpiece and there saw a clock recording the fact that it was midday: and alongside the clock a new calendar proclaiming that this was the first day of a new year—a purely arbitrary time for starting another year, for the explanation of which we have to go back many centuries and seek for the reasons in Rome and Egypt.

The fact of its being midday is a natural phenomenon, for the sun's transit of the meridian is a real event. We refer to it as twelve o'clock because certain people in the ancient East more than forty centuries ago divided the day into two periods of

twelve hours each. Here in London on this winter's day the sun is not visible, but the clock on the mantelpiece gives me confidence in believing that it is midday. Though the clock I am looking at was made in England less than ten years ago, it is only a modified form of a device that has been in use in Germany and France for six centuries. Europe obtained its early timepieces, those that provided the suggestion for making our type of clock, from the Moslem peoples of the East, where we are assured that automata and clocks of this sort exercised a tremendous fascination.¹ The palace of Harūn al-Rashid was full of such toys, and the embassy sent to Charlemagne brought with it a clock such as was described by Ibn Batūta in A.D. 1326.

The Arabic-speaking peoples were indebted to the Greeks for such apparatus. Al-Jazāry called his timepiece the "clock of Archimedes." With the information that is now available it is possible to trace back not only the artificial notation of the hours of the day and night to the ancient Babylonians and Egyptians—during the reign of Amenhotep I in Egypt (before 1500 B.C.) a certain Amenemhet had already invented an improved water-clock—but also to explain the means of determining these hours from the water-clocks or clepsydras of these same peoples.

The measurement of the year and the inauguration of the festival of New Year's Day were due primarily to observations of the inundation of the Nile sixty centuries ago. It is true that later the priests of Heliopolis introduced the more accurate solar calendar based upon observations of the heliacal rising of

¹ K. A. C. Creswell, Dr. F. R. Martin's MS. "Treatise on Automata," *The Year Book of Oriental Art and Culture*, 1925.

Sirius. But much of the symbolism that we still associate with New Year's Day is a relic of the magical influence which that day was supposed to exert on the Nile and the welfare and prosperity of the whole community. These ideas persist although the time of New Year's Day has been changed from July to the month which we call by the name of the Roman God, Janus, the opener of the ways. If on January the first we form good resolutions and express the wish for good fortune, it is because sixty centuries ago the goddess Hathor (and later the god Osiris) was believed to bring prosperity on New Year's Day by causing the inundation, which assured the year's supply of food. She is also reputed to have effected this purpose not merely by shedding the tear which produced the inundation, but also by brewing vast quantities of beer, with which she herself became intoxicated and lachrymose. The tradition of over-indulgence in alcoholic beverages to inaugurate the New Year is no modern invention! One of the earliest stories that has come down from antiquity attributes the Nile flood—the blood-red inundation of the barley fields—to the blood of those who were slaughtered for their disloyalty (commonly known in later religious literature as *The Fall of Mankind*), which is probably a later variant of earlier versions in which Osiris himself or Hathor (Isis) was slain so that the life-giving blood might fertilize the fields and bring prosperity to their people. When the actual sacrifice of the King (or a human substitute for him) was finally abandoned, beer (stained red with red ochre) replaced, in the story, the King's blood as the life-giving flood, by drinking which Hathor and her priestesses became intoxicated to celebrate the New Year.

In his book *New Year's Day* Professor S. H. Hooke has given a brilliant sketch of all that was implied in the earliest observation of that holy day, and of the intimate links between such a celebration and the whole social structure of the makers of civilization.

The mere reference to the fact that I am writing at twelve o'clock on New Year's Day implies an acknowledgment not only of the first invention of the year's measurement by the Egyptians in the fourth millennium, but of all the reshuffling of dates that has since been effected so as to transfer the first day of the year from July to January and to give it a Roman name. It also involves a recognition of the artificial system of two twelve-hour periods, the origin of which can be referred to the same remote source, of the clocks for measuring the passage of these arbitrary hour divisions, of the part played by the Egyptians and Babylonians of the second millennium, of the Greeks who carried the craft into the Christian era, of the Arabic-speaking peoples of Syria who kept it alive until the fourteenth century, and of the French and Germans who adopted it in Europe and gave it to us. Even by our action so simple and commonplace as that of saying it is twelve o'clock on New Year's Day in the year of Our Lord, 1928, I am acknowledging a complex cultural heritage that has been handed down to our time by many thousands of culture-bearers through fifty centuries.

The paper on which I am writing, though made in England of a different kind of material, is the outcome of a craft that was not well established in this country until the year 1685, having been derived, like the clock, from France and Germany. But five centuries earlier the Moors had introduced it into

Spain, from which it spread to Italy. The Moslems, who introduced the use of paper from Turkestan to Syria, Egypt, North Africa, and Spain, had themselves acquired the art from the Chinese. But if we are indebted to the Far East for the use of paper made of rags, the Chinese themselves obtained the idea of making such a writing material indirectly from the Egyptians, who for more than twenty centuries before the peoples of Eastern Asia made rag-paper were making papyrus from the piths of the plants growing in the Nile, and writing upon it in ink with pens.

Before the ideas that found concrete expression in the making of paper came to Europe they had travelled from Egypt to Eastern Asia, and then returned to Syria across the whole extent of Asia, thence from east to west along the north coast of Africa to enter Europe by Gibraltar. After many adventures in Europe, the practice ultimately reached England after fifty centuries of wandering in Africa, Asia, and the West.

The language in which this writing is expressed reveals a twofold debt to the East. The symbols of the writing itself have a chequered history of more than fifty centuries during their passage from Egypt to Sinai and Phœnicia, to Greece and Rome, to Western Europe and Britain, and twenty centuries of progressive modification in this land. The symbols give expression to one variety of the Indo-European language, which by that title reveals its derivation in Eastern Europe or Western Asia, its many centuries of transformation, its borrowing from other languages, and the profound changes which have resulted from its use by a living stream of enterprising people.

Hence, in considering even so simple an act as writing and taking note of the time at which it is done I have to acknowledge my indebtedness to the whole extent of Europe and Asia and North Africa over a period of more than fifty centuries. While I am writing this a maid brings me a cup of tea, which reminds me of my obligations to the Far East both for the beverage and the china cup which contains it, though the mode of its preparation and the addition of milk, and the form of the handled cup and its saucer, are no less eloquent of the modifications which our own people have introduced into the ritual of tea-drinking.

By extending the process and considering the chairs and tables we are using, the clothes we are wearing, the houses we are living in, the food and drink we consume, or the occupations of our daily life, the methods and the implements we use, we should still further extend the range of our indebtedness to the past. If, however, instead of restricting our survey to the material fabric of civilization, we consider the social organization, the kingship and the system of administration, the political and religious disciplines, the regulations affecting marriage and social behaviour, all the traditions affecting questions of what is proper and what is improper in conduct, we shall be forced to realize that we are part and parcel of the civilization of the world at large, which gives us an heritage and dominates our behaviour.

The claim is repeatedly being made that there is a more urgent task for ethnology than the study of the past. In this chapter I have been calling attention to well-known evidence to emphasize the consideration that most of the things we do and think can be

understood only by examining the history of the circumstances which led up to their adoption.

This principle has been expounded so often—the quotation at the head of this chapter is an example—that it should not be necessary to urge its observance.

CHAPTER II

THEORIES OF CULTURE

"A great truth trodden underfoot, reviled by bigots and ridiculed by all the world."

THOMAS HENRY HUXLEY.

I HAVE thought it necessary at the outset to remind my readers of certain familiar facts, which anyone can multiply indefinitely, if not from his own knowledge, by consulting an encyclopædia, that all go to emphasize the fact of the unity and continuity of civilization. It is not a hypothetical assumption, but the obvious truth. The character of our arts, customs, and institutions has been arrived at, not simply through the spontaneous inventiveness of widely distributed individuals, but by the elaboration of a limited number of comparatively simple principles which have been diffused over the surface of the world from a definite centre, and stimulated the inventiveness of alert men to continue the process of developing them further. Our behaviour and our feelings and thoughts have been influenced, if not dominated, by the arbitrary events of the last five thousand years. During this time people in most parts of the world have adopted elements of the common heritage and adapted them to their own needs and desires. Thus they have been stimulated to devote their powers of invention to the transformation and development of the borrowed culture. Whether or not we refer to this local elaboration of ideas and practices as evolution, it is important not

to forget to search for the incentive to the process and the need for historical discipline for its explanation.

Diffusion of culture is the fundamental process of all human activities. All that every individual knows has been derived from the society in which he lives, or rather from his own reaction to the influences around him. He acquires knowledge from others: but what particular information he accepts and assimilates and how he transforms and uses it is his own affair. The fundamental fact is that in virtue of his distinctively human type of brain, learning from his fellows is the essential factor in his behaviour. Everyone is aware of the reality of diffusion and the part it is constantly playing in all human affairs.

How is it, then, that these ideas are not universally accepted? To answer this question we must turn to history.

As the late Professor J. B. Bury has expressed it, during the eighteenth century the great humanistic movement in France "put man into the centre of the picture." At the end of the seventeenth century Bossuet's sonorous platitudes, if little more than empty rhetoric, showed at least that men were beginning to concern themselves with the great problems of universal history. But in the following century the discussion was given breadth and a more serious purpose by the robust arguments of Montesquieu and Voltaire.

Out of the controversies that ensued there emerged two conflicting interpretations of human behaviour, corresponding to the rival theories of Descartes and Newton with regard to the general methods of science. The former insisted upon the constancy and immutability of the laws of nature and laid down the

principle that the aim of science was to discover these laws and interpret all knowledge in conformity with them. In opposition to this view Newton maintained that scientific inquiry "must set out from the observation of the actual facts of the objective world." This principle was accepted and applied in every branch of science—with the exception of that of the study of man. The shattering blow dealt by Newton to what Lord Morley called "Cartesian scholasticism" left ethnology isolated as the one department of inquiry which continued to proceed by the *a priori* principles of Descartes. One reason for this exemption was the active campaign which was then being carried on by Fontenelle in support of the conception of "natural laws," quite ignoring the distinctive qualities of man, who in virtue of the possession of speech is in a measure immune from such so-called laws and is apt to become a slave to traditions. It was he, in fact, who was the first to use the argument still in vogue among one school of modern scholars—that the examination of historical fact is irrelevant to the purposes of ethnology.

Fontenelle's rejection of the tyranny of antiquity was due, to quote Bury, to Descartes' determination to "break sharply and emphatically with the past, constructing a system which borrows nothing from the dead." This was in A.D. 1683. It is curious to reflect that more than a century and half earlier (in A.D. 1531) Machiavelli adumbrated the same ethnological doctrine as Fontenelle, for reasons which are the exact reverse of the latter's, namely, as the result of a reliance on the teaching of the ancients. This paradoxical result was inspired by the argument that man's social ideals and achievements were essentially identical in ancient and modern times,

because, so he reasoned, men have always had the same passions and of necessity the effects must be the same. Must we, then, regard Machiavelli as the author of the ethnological doctrine of the similarity of the working of the human mind, a fallacy that is still the fashion four centuries afterwards?

In 1750 a student named Turgot, destined afterwards to become one of the greatest of French statesmen, wrote a dissertation in which he applied the principles of the Newtonian method in science to the study of mankind. An eloquent tribute to the significance of this attempt to do for ethnology what was being done for all other branches of learning may be found in the writings of the late Lord Morley. Referring to Turgot's *Essay on the Successive Advances of the Human Mind*, he wrote as follows: "The opening lines are among the most pregnant, as they were the most original, in the history of literature, and reveal in an outline, standing clear against the light, a thought which revolutionized old methods of viewing and describing the course of human affairs, and contained the germ of a new and most fruitful philosophy of society."

What Turgot did was to insist upon the importance of the historical method of inquiry and the principle of the diffusion of culture. In particular he emphasized the consideration that the working of the human mind could not be forced into conformity with any system of so-called "laws of nature." The phrase "similarity of the working of the human mind" as used by the modern disciples of Fontenelle, is really nothing more than the emptiest verbiage. The essence of Turgot's teaching, on the contrary, might be summed up in a sentence of his own: "All epochs are fastened together by a sequence of causes

and effects, linking the condition of the world to all the conditions that have gone before it."

The reason why this "fruitful philosophy of society" has not yet "revolutionized old methods of viewing and describing the course of human affairs" is that the philosophy of Descartes continued to retain its influence in Scotland and Germany long after it had been superseded by the Newtonian discipline elsewhere. Scotland happened to produce in Dr. William Robertson, Principal of the University of Edinburgh, a Cartesian scholar whose writings did much to prevent ethnological research from being conducted in the true spirit of scientific method.

Regardless of what had been achieved by Turgot in 1750, Robertson obstinately remained true to the teaching of Fontenelle, which (in his *History of America*, 1777) he expressed in the formula that has remained the guiding principle of orthodox ethnologists until the present day. He originally formulated his claim in the following words: "Were we to trace back the ideas of other nations to that rude state in which history first presents them to our view, we should discover a surprising resemblance in their tenets and practices; and should be convinced that, in similar circumstances, the faculties of the human mind hold nearly the same course in their progress, and arrive at almost the same conclusions." Since then it has been constantly argued that, as man's body and brain are built in accordance with a more or less definite pattern, all men react in the same way to similar circumstances. Hence they ought, so to speak, instinctively to develop similar customs and arrive at a symbolism that is universal! More than a hundred and seventy years ago Turgot exposed the

fallacy of this pretension. It is unnecessary to do more in refutation than to call attention to his clear statement. But the modern device of assuming such an ethnological speculation to be an expression of the principle of evolution reveals a complete misunderstanding of what the biologist means by evolution—the derivation from a common origin and the diffusion in space and time from the centre of origin.

The form in which this doctrine appears in the writings of the most recent exponents of the Cartesian philosophy can be illustrated by the following quotation from the latest edition of Sir James Frazer's *The Golden Bough* (abridged edition, 1923, p. 2): "Recent researches into the early history of man have revealed the essential similarity with which, under many superficial differences, the human mind has elaborated its first crude philosophy of life." Although Sir James Frazer refers to this revelation as "recent," he really obtained it from Sir Edward Tylor, who had himself adopted it in 1871 from the German philosopher Adolf Bastian, a writer who had again received his inspiration indirectly from Robertson, who, as we have seen, merely expressed in other words the ideas of Fontenelle. The chain of descent of this "recent" doctrine can thus be traced right back to Descartes, who was the fountain head of that stream of confusion which Turgot exposed at its source.

The objections to such facile speculations are two-fold. In the first place, the history of mankind shows that men do not react in the same way to similar circumstances (tradition and training being the determining factors in behaviour). Moreover, particular forms of symbolism are not universal, but

can be shown to be due to specific and arbitrary causes.

The mere formulation of such hypotheses, however, reveals a profound misunderstanding of the functions of the human brain. Animals' reactions become automatic and predictable only when the cerebral cortex is removed. The smaller the cerebral hemispheres of an animal, the more automatic its reactions. The cerebral cortex of Man is much more highly developed than that of any other living creature. This implies that the effects of individual experience are much more profound. The distinctive fact in human behaviour is the impossibility of predicting the nature of the response to any set of circumstances—a consideration emphasized by Sir Henry Head in his classical work on the functions of the cerebral cortex of man. For the reaction is determined as much (if not more so) by the individual's previous experience as by the structure of his brain or the nature of his circumstances.

In particular, human behaviour differs from that of all other creatures in the fact that speech has become the instrument whereby men are brought under the influence of their fellows and of traditions that have come down from the past, and even from remote antiquity.

It is therefore a profound fallacy to assume the existence of a universal symbolism. Robertson's phrase, "the similarity of the working of the human mind," cannot afford any valid explanation of similarities of custom and belief. No useful theory of ethnology can be built up on false speculations in psychology—in particular when the facts afford no sort of corroboration for such idle fancies.

Through thousands of years men have been able

to exist without any social organization, or any of the arts, crafts, or practices that we are disposed to regard as essential—the sort of obvious things that most modern theorists assume any and every people would do without any prompting. This should be a warning to us not to take it that such modes of action are inevitable. For, as the late Sir Edward Tylor said of another speculation: “Mr. Buckle did good service in urging students to look through the details of history to the great Laws of Human Development which lie behind; but his attempt to explain, by a few rash generalizations, the complete phases of European history, is a warning of the danger of too hasty an appeal to first principles.”

Those field-workers who have acquired an intimate acquaintance with relatively uncultured peoples have repeatedly called attention to the lack of that inventiveness which the theorists are so fond of taking for granted, or rather to their failure to appreciate the need for inventing devices that we regard as obvious and essential in character. The late Sir Baldwin Spencer has repeatedly emphasized the fact that naked aboriginal Australians will suffer extreme cold (and show genuine gratitude for woollen blankets of European manufacture) without realizing that the furred skin of the animals around them, which they actually use for drumming, might save them from the discomforts to which they are exposed.

Indeed, no more impressive testimony is afforded of the arbitrary nature of the factors that led to the creation of civilization, and of the lateness of that event, than the survival at the present time of many groups of people almost wholly devoid of anything worthy of the name of culture. Examples of such Natural Men are found in the Pygmies of Equatorial

Africa and the Bushmen of the South, the Veddahs of Ceylon, some of the Jungle Tribes of India, the Sakai and the Semang of the Malay Peninsula and the Andaman islanders, the Punan of Borneo, the Kubu of Sumatra, as well as the Negrito people of the Philippines and New Guinea, the Eskimo, Ostiaks, Samoyedes, and Lapps of America, Asia, and Europe respectively, and many of the American Indian Tribes, the Dene, Salish, Northern Ojibway, and others in California, Nevada, Utah, Arizona, and Tierra del Fuego.¹

This wide geographical distribution and variety of race, together with the surprising uniformity of the genial traits exhibited by these heterogeneous and scattered groups, suggests that the characters displayed by every people when stripped of the artifices of civilization are those of the "gentle savage."

If we go back to the earliest folk-lore and literature of many peoples, we find the same story, embodied in their traditions of a Golden Age when sin had not yet entered into the world. Analysing the evidence relating to truly uncultured peoples which has been collected by hundreds of witnesses in the course of the last three centuries, we can form a very clear picture of the behaviour of all mankind more than sixty centuries ago, when even the foundations of civilization had not yet been laid. Natural Man is thus revealed as a naked, harmless, truthful child, good-natured, honest, and considerate, with an aptitude for pictorial art and craftsmanship. Though merry and kind-hearted, he is shy and suspicious,

¹ For a fuller discussion of this most important matter see Dr. W. J. Perry's *Children of the Sun* (1923), H. J. Massingham's *The Golden Age* (1927), and my *Human History* (1930).

always on the alert and ready for an unpleasant emergency, quick and able to defend himself. Though timid and friendly, he is always ready to fight for his life. He never wantonly attacks or slays another man; but if he is himself attacked he will not only protect himself with vigour, but will call on others to help him.

Though skilful and competent, Natural Man displays no innate desire to build houses or to make clothes, to till the soil or to domesticate animals. He has neither religion nor social organization, neither hereditary chiefs nor any formal laws or ceremonies, either of marriage or for the disposal of the dead. Nor has he any property excepting such personal implements of the chase as he may carry about with him.

He lives as a member of a family group, the essential link between whom is consideration of, and deep affection for, the children. Each of such groups has its own territory, which is respected by other groups. In many of these primitive communities strict monogamy is practised and great marital fidelity is exhibited, the association usually being maintained for life. But the essential link in the family group is consideration for the children's welfare. A plurality of wives may sometimes be found. But there is no ceremony of marriage. After a period of complete and unrestrained sexual liberty at adolescence, a couple who, after this experimental apprenticeship to matrimony, agree to live together, usually remain faithful throughout life.

Every member of such a community readily helps all the rest and shares any food he may collect with the rest of his family; but they do not as a rule make any systematic attempt to lay up supplies.

The men's time is wholly occupied every day in hunting game and in collecting food.

Primitive man is prompt to resent injuries and injustice, and the facility with which his genial characteristics are lost and habits of cruelty are adopted lends some colour to the popular idea of the savagery which is usually associated with uncivilized mankind. It cannot be too strongly emphasized, however, that such practices as head-hunting, and human sacrifice in the wider sense, not to speak of many of the grosser forms of cruelty which are so frequently found among relatively uncultured peoples, are in most cases the results of the adoption of religious and social ideas from more highly cultured peoples. Organized warfare, brutality, and most kinds of violent behaviour are due to the circumstances of civilization and are not found among really primitive peoples, unless they are exasperated by those who enjoy such elements of "culture." The amelioration of the social conditions of civilized man and the cultivation of tolerance and politeness, which have made so much progress during the last century, should not be allowed to obscure the fact that without civilization Natural Man is well-behaved and happy.

Within recent centuries we have abandoned the practice of torturing unfortunate women accused of witchcraft, and have got rid of many of the monstrous cruelties that formed part of the discipline of religious intolerance and fanaticism. The barbarities of industrial conditions and judicial penalties have been so softened that the grosser forms of maltreatment of the worker and the prisoner are now things of the past. The unfortunate victims of mental alienation are no longer treated as though they were

really "possessed of the devil." The elimination of the superstitions that inspired, if they did not justify, such enormities is one of the results of the growth of knowledge and the substitution of reason for magic.

We can give full credit to the influence of the growth of rationalism, which permits the natural sympathy of men to find freer expression in promoting the amelioration of society, without blinding ourselves to the consideration that in remote ages men were naturally gentle and considerate and did not develop customs of cruelty and brutality until civilization, and in particular primitive religion, forced them to act in such unnatural ways. Head-hunting and other forms of human sacrifices were devices of primitive religion, and in many ways were responsible for the creation of strife and various forms of cruelty.

The gigantic ruins found in Central America, Java, Cambodia, Rhodesia, and in many of the centres of still older cultures afford impressive testimony of the fact that civilization is apt to undergo a process of degradation, or even local destruction, more or less complete. This fact has often prompted the suggestion that the communities of so-called natural men were not really primitive, but simply peoples who had lost the culture they formerly enjoyed. There is some justification for such a view in Mexico, Central America, Peru, Indo-China, and Java, as well as in many other places. There is also evidence to establish the fact that such elements of culture as are possessed by the aboriginal Australians—their mummification of the dead, their social organization and totemism, their methods of initiation, etc.—are the degraded and otherwise modified results of

the adoption of alien practices and beliefs. But the full recognition of these considerations does not affect the conclusion that, as we have already seen, there are still living in various parts of the world groups of people who are in most respects truly primitive, and have never enjoyed any of the advantages or disadvantages of culture.

The late Professor Bury has shown in his *Idea of Progress* that this was a very modern development. Men had been actively engaged in movements of a progressive nature for scores of centuries before they consciously formulated the idea as an aim to strive after. So in the beginning the men who created civilization knew not what they were doing.

It is one of the fashionable fallacies of modern speculation that civilization itself and the various ingredients, material, social, and spiritual, which go to its making, are such obvious and inevitable things for man to invent, that almost instinctively he set about doing so. If there were any truth in this opinion, why did men wait all those hundreds of thousands of years before any of them took such a so-called obvious and inevitable step? Or, if it is suggested in reply that man's mental powers were slowly developing, why should the momentous achievement of creating civilization have been reserved for one particular group of people to accomplish? No one claims that the Egyptian and Sumerian pioneers—both members of the so-called Mediterranean Race—were endowed with a mental equipment which was superior to that of all the other members of their own race, or of the Nordic, Alpine, and Mongolian races, who for centuries afterwards remained beyond the pale of the great creative movement of civilization.

The invention of civilization was due not so much to persons endowed with intellectual pre-eminence or exceptional initiative as to the existence of a particular set of circumstances that forced upon men's attention the possibility of embarking upon a certain course of action and the immediate benefit of doing so. Possibly if such an opportunity had been offered to negroes or aboriginal Australian people they might have displayed neither the insight, nor the initiative and persistence, to have seized it and made such use of it as the Egyptians did. Whether or not it is just to make this suggestion we have not the evidence to decide.

Additional corroboration is given to the view that the creation of civilization was due in large measure to chance by considering the aptitude of some of the cultureless peoples. There is a close analogy of the general habits of life of such primitive peoples as the Punan of Borneo, the Veddahs of Ceylon, and the Pygmies of Equatorial Africa, not merely to one another, but also to those of chimpanzees and gorillas.

In our attempt to interpret the true origin of civilization it is clearly essential to realize the conditions that were prevailing when the momentous process began, and the circumstances that played a part in effecting its progressive development. Reference to the anthropoid apes is doubly significant in this connexion. The habits of the gorilla and the chimpanzee by their analogies afford a startling corroboration of the truth of the sketch I have given of the primitiveness of Natural Man. In the second place, the contrast between the capabilities of apes and men serves to throw into relief the traits distinctive of human behaviour. Primitive Man shows no more innate tendency than do the manlike apes to

embark upon the invention of civilization. The fact that no man attempted anything of the sort for hundreds of thousands of years affords eloquent testimony to the essential truth of this statement. But when six thousand years ago a peculiar set of circumstances led a particular group of men to become involved in the discipline of what we call progress, they did what the apes were unable to do; because these men had the agile brain and the adaptable hands to seize the opportunity that circumstances had thrust upon them.

The late Carl Akeley, who studied the habits of the Kivu gorillas, formed the opinion that in the wild state, and when free from any previous experience of human hunters, man's nearest relative is "a perfectly amiable and decent creature," who attacks a man only when he thinks that he himself is being attacked. Like a primitive man, he will fight in self-defence or in defence of his family, but will not be aggressive unless he is in danger or in fear of hostility. The opinion widely current among both hunters and natives in the Cameroons (which was well summarized by Huxley in *Man's Place in Nature*), that the old male gorilla of any family group will attack any human being at sight, is not necessarily inconsistent with Akeley's conviction. For all the old males that have been killed in the Cameroons—and as the natives use gorillas for food they have a wide experience of hunting them—are said to reveal many scars resulting from former encounters with human hunters, so that there is ample reason in their personal experience for the hostility and the loss of the natural amiability which Akeley attributes to them.¹

¹ See the Akeley Memorial Number of *Natural History*, Vol. XXVII, 1927, p. 168: also Carl Akeley, *Gorillas—Real*

In his natural state the gorilla lives in a family group, consisting of an old man and his several wives and children. Each of these groups, like those of the Natural Man, has its own domain within which it ranges free from interference from members of other families. While the females and the children climb trees, in which they spend their nights, the old man completely abandons arboreal habits and, like his human relatives, becomes terrestrial. At night he builds a platform of sticks at the foot of a tree, on which he squats, with his back against the tree-trunk, as the guardian of his family up aloft.

The habits of the other African anthropoid ape are said to differ in many respects from those of the gorilla. Some writers claim that the chimpanzees, like Natural Man, are prone to be monogamous and to be free from the dominating uxoriousness of the gorilla, which prompts the latter to spend his best energies in jealously guarding his harem. But taking all the evidence, which has recently been summarized by Yerkes, Gerrit Miller, and Zuckerman, it seems most probable that the chimpanzees, like the gorillas, and in fact all apes and monkeys, are polygamous (see on this subject S. Zuckerman's *The Social Life of Monkeys and Apes*, 1932).

It is not, however, the question of whether the apes are monogamous or polygamous that chiefly interests us at the moment, but rather the general resemblance of their modes of life to those of Natural Man. The form of society based upon family groups, knit together by affection and consideration for their

and *Mythical*, *ibid.*, 1923, p. 429. My references to the Cameroon gorillas are based on evidence given to me orally by Dr. Dyce Sharp, which is now published in the *Proceedings of the Zoological Society of London*, Part 4, 1927, p. 1006.

children's welfare, and the respect for the exclusive territorial rights of such families, are very striking points of similarity. The impressive fact I wish particularly to emphasize is that Primitive Man, in spite of his powers of intelligence and his manipulative ability, should have been content for so many ages to live a life of simple nomadism without attempting to alter his conditions of existence in any other way than by alertness and an uncanny skill in his behaviour. It was not until one group of men was forced by circumstances to realize what they could do to avert the need of a daily search for food that civilization began.

CHAPTER III

THE BEGINNING OF CIVILIZATION

"It is now a finally established fact that civilization first arose in Egypt, followed a few centuries later by Babylonia."

JAMES H. BREASTED (1926).

"When the two ancient nations, Egyptians and Scythians, contended for antiquity, the Egyptians pleaded their antiquity from the fertility of their soil, inferring that men there first inhabited, where they were with most facility sustained; and such a land did they conceive was Egypt."

SIR THOMAS BROWNE (1658).

IN the foregoing pages I have tried to convey some idea of the amazing complexity of the process of the invention of civilization and the intimate interdependence of all its ingredients. The common practice of attempting to isolate from the closely woven fabric of our civilization one thread, such as metal-working, or agriculture, or social organization, and to discuss its origin apart from the rest, is certain to end in failure. Civilization cannot be truly understood except as a whole: it is a complexly inter-related system, the constituent parts of which developed in integral association. The whole conception was a novel one to the pioneers in invention. When they took the first step they devised the system. Egypt was the cradle, not only of agriculture, metallurgy, architecture, shipbuilding, weaving and clothing, alcoholic drinks and religious ritual, the kingship and statecraft, but of civilization in its

widest sense. This fact emerges with startling clearness when we examine the available evidence.

Primitive man, as we have seen, took no thought of the morrow. He roamed about the earth living on such food—roots and berries, grubs, shell-fish, eggs and meat—as he found, but made little or no attempt either to store up food-supplies or to increase them by agriculture or cattle-breeding. Such Natural Men were in fact mere food-gatherers. Civilization began when they became food-producers—farmers who cultivated cereals and bred cattle. Before this happened, men lived, as we have seen, much in the same way as the apes do. They built no houses and did not wear clothes. Apart from the family they had no social organization and neither arts nor crafts beyond the making of implements of the chase. They spent their time in hunting, and in this pursuit, upon which all their skill was concentrated, they became amazingly expert. Their power of observation was trained so that they were able to detect and interpret the subtlest of clues in the pursuit of game and in interpreting the actions of their fellows.

What was it then, it may be asked, that brought to an end this era of the simple life with its complete freedom and peacefulness? From the evidence at our disposal there seems to be little doubt that the presence of a natural crop of barley on the banks of the Nile in Upper Egypt was the predisposing factor in starting the vast revolution in the affairs of mankind which prepared the way for the creation of civilization. At a time which we may tentatively estimate at 4000 B.C., the people who appreciated the fortunate chance which provided them with this abundant and ready-made supply of food, adopted a settled mode of life. It was, however, not so much

the abandonment of the roving life of the nomad that lent importance to this departure, as the fact that these people of Upper Egypt were, by their dependence upon the barley crop, anchored to a particular locality rich in suggestive factors. A settled life with an assured supply of food was favourable to a rapid increase of population and to the cultivation of those arts and crafts which natural conditions in Upper Egypt were in large measure responsible for promoting. A nomadic people, even if they had the knowledge and skill which were required to develop a material culture, would have little incentive to do so, because their movements would be hampered by the necessity of transporting such objects as they might make. But their circumstances were not such as to provide them with leisure or with any stimulus to invent things. It was the agricultural mode of life that furnished the favourable conditions of a settled existence, conditions which brought with them the need for such things as represent the material foundation of civilization.

I have already mentioned that the original settlers in the Nile Valley found barley growing wild there. This we know, because the stomachs of the earliest people buried in Egypt contained barley: and we are not justified in assuming that at the remote time of the earliest Predynastic period these people were already cultivating the soil and had imported grain from some foreign country to plant in Egypt. We can confidently assume that, for the reasons so graphically explained by Professor T. Cherry, barley must have been indigenous in Egypt.¹

Settling down to enjoy the riches thus lavishly

¹ See my book *Human History*, 1930: and Gompertz, *Corn from Egypt*, 1927.

bestowed by Nature, one may assume that the people rapidly increased in numbers. On each side the insulating desert protected them from disturbance. They enjoyed a climate which for a people as yet innocent of clothing was entirely genial. They lived under idyllic conditions. But there were many adventitious circumstances that combined to lead these settlers in the Nile Valley to become the pioneers of civilization. For there can be no doubt that the most momentous events in man's career took place in Upper Egypt about sixty centuries ago. Upper Egypt was the scene of that Beginning of Things which it is the aim of this book to interpret.

It cannot be too strongly emphasized that the whole development was due to the circumstance that the Ancient Egyptians were favoured with an altogether unprecedented type of environment. They enjoyed the privilege of living in a rich land which provided them with barley, millet, and ground-nuts, and with ample supplies of meat and game—beef, mutton, gazelle; ducks, geese, quails, and other birds. The river supplied the settlers with abundance of fish. More important still, it served as the great highway of traffic, the most effective possible link between their scattered primitive settlements, irresistibly welding them together into one homogeneous community. Is it any wonder that the Egyptians forsook the nomadic life and settled in definite places in the valley to take advantage of the riches which Nature offered them?

One might imagine, if the evidence to the contrary were not so definite and emphatic, that the idea might occur to any man to store up food in times of plenty to save himself from starvation in leaner times. But those who have studied savage peoples

have discovered that Natural Man paid little heed to the morrow. In his book, *The Arunta*, the late Sir Baldwin Spencer tells us that: "The aboriginal [Australian] is a pure nomad, living entirely on vegetable food and animals that he finds in the bush. . . . He stores nothing, except for a few days, in preparation for a ceremony, and has no idea of agriculture or domestication. . . . He believes that, by means of magic, which plays a large part in his life, he can increase (the supplies of food) when he wishes to do so. When food is abundant he eats to repletion, when it is scarce he tightens his waistband and starves philosophically" (p. 14). This lack of foresight is distinctive of Natural Man under all circumstances.

People rooted in one place in the Nile Valley, and year after year witnessing at regularly recurring periods the provision of a rich supply of their favourite foodstuff followed by a long period in which it was not forthcoming, must eventually have had forced on their attention the fact that if they were to store up the harvest they might be able to save food until the next harvest and so be assured of sustenance without a daily search. This may have provided the incentive for measuring the time from one inundation to another, and so for the first time in the history of the world making a calendar.

We do not know how the idea of storing food originated. It is obvious, however, that once the people came to appreciate the need of saving grain for planting, and began to set aside part of their crop for this purpose, it would not be a great step for them to devise measures of storing barley for consumption, and estimating the duration of the time it had to last. The importance assigned in folk-lore

to the seed for planting suggests that the preservation of some of the harvest may also have preceded and suggested the possibility of storing food.

For the purpose of storing grain the Egyptians probably were impelled to invent pottery and granaries. The building of the latter to protect their grain may have suggested the possibility of

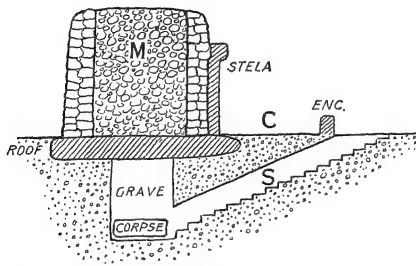


FIG. 2.—The beginning of architecture. Diagram of a section of an early Egyptian tomb (*circa* 3300 B.C.) and superstructure which represents the first stage in the evolution of architecture. (After A. C. Mace.)

erecting houses for human beings to occupy. For real houses first make their appearance at this phase of human history.

Architecture in the true sense, however, did not begin until the superstructure of the tomb (Fig. 2) was transformed into a temple. Such inventions would be facilitated by the very objects that prompted them. The leisure enjoyed by men who stored up

food in their settled homes could be devoted to such experiments as found expression in the making of baskets and matting, pottery and houses, and eventually in weaving the fine "matting" we call linen from the flax that grew in their barley fields.

We know as a fact that in the earliest cemeteries of Egypt pottery and matting, model houses and linen are all present in the graves alongside bodies in whose stomachs are to be found barley and millet, fish-scales and mutton-bones. In these graves there are also the skins of oxen and goats, the skeletons of domesticated dogs, and beads of carnelian that had been bored and worked.

Again, the storing of barley led to the inauguration of beer-making and started on its career that flowing bowl which has played so vast a part in the history of the world. Herodotus tells us that "the Egyptians live on bread made of spelt, which they form into loaves called in their own tongue *cyllestis*. Their drink is a wine which they obtain from barley." The beer was regarded as the divine (*i.e.* life-prolonging) essence of the sacred barley, which, again, was identified with the body of the god Osiris. In every part of the world each civilization imitated its Egyptian prototype and had its sacred drink, wine, ambrosia, amrita, soma, kava, manguely, mead, etc., to confer immortal life upon its gods.

The settled mode of life that prepared the way for the introduction of agriculture and irrigation was already promoting the invention of the arts of the potter and weaver, and creating the conditions that led to the domestication of cattle and, probably for the first time in the history of mankind, the use of cow's milk as food for human beings.

The realization of the fact that the milk of the

cows they had domesticated could be used for feeding human children seems to have made so profound an impression on the earliest Egyptians that they regarded the cow as a divine being, a foster-mother of mankind, whom they identified with the Great



FIG. 3.—The Divine Cow providing Life-giving Milk for the Sustenance of Queen Hatshepsut and the Prolongation of her Life which was the Essence of her Divinity. (After Naville.)

Mother who was the source of all human life. They already regarded the moon as the controller of women's life-giving functions, and so they added to the symbols of the divine milk-giver the moon's disc as one of her insignia; and in course of time identified the sacred cow with the sky in which the moon moved. The

strange results of the domestication of the cow played a large part in shaping early religious belief, and in particular the control of human destiny by the sky. To the consideration of this subject I shall return in a later chapter. In addition, the identification of the Divine Cow with the original parent of mankind probably played a part in the development of that curious social system, now commonly known as totemism, which dominated the organization of the earliest clan system throughout the world.

The herding together of large communities had many other important results. The rapid increase of the population led the people to collect on the raised knolls spared by the inundation and build towns, which needed local government and provision for the disposal of the dead. There was thus involved the making of definite cemeteries, a development that was fraught with far-reaching possibilities in shaping both the material and the spiritual structure of the nascent civilization, stamping upon it an image and superscription, which in its long history it has never completely lost. The cemeteries of Egypt were truly the birthplace of the arts and crafts of civilization.

I come again to a question of the greatest importance: the development of the calendar. Once men learned how to store grain and so safeguard the means of sustenance, the population of the Nile Valley must have grown more rapidly than at any earlier time in man's career, until the critical phase arose when the natural crop of barley was not adequate to supply the needs of the people. Before this crisis was realized, the people had been witnessing year after year the spectacle of the river overflowing its banks and barley sprouting in the area so watered. Then one day some unnamed genius conceived the

idea of imitating the processes that were accomplishing themselves naturally. Extending the area of inundation by the device of scooping out channels, the water was distributed over a wider area. Whether the need for planting seeds had been already discovered, we have no evidence to decide; but with the invention of this system of basin irrigation the industry of agriculture was truly launched on its career, and this must have involved the recognition of the necessity of sowing the seed. Long before this happened it is probable that some man had estimated the length of the year by recording the number of days from one inundation to the next, thus foretelling another year's harvest.

In the history of the measurement of time the day and its dependence on the sun are, of course, obvious. The cycles of the moon, and the influence they were supposed to exert upon women and the tides, were probably appreciated early in man's experience; and not unnaturally the moon was supposed to control human and mundane destiny as well as merely measuring the length of the natural month. With the introduction of agriculture and the planting of seed it obviously became a matter of vital importance to know when to expect the harvest. The first measurement of the year was determined by counting the number of days from one inundation of the Nile to another.¹ In course of time this led to the division of the flood-year into lunar months, and eventually to the creation of an accurate solar calendar based upon the heliacal rising of the star Sirius. It is but a reasonable supposition that the man who made this calculation and was able to predict exactly

¹ Sir Norman Lockyer, *The Dawn of Astronomy*, 1894, p. 234.

when the inundation—and in particular the fall of the river and the time of sowing—was due, acquired a reputation so tremendous that the people regarded him as the controller of their destinies and believed the dry land to be created by his efforts. His reputation was sealed when he became the first king in the history of the world, who was not only credited with the creation of the dry land, but was identified also with the fertilizing powers of the water which made the grain develop in the soil.

The man who was regarded as a Creator and a Giver of Life, and as the source of the whole community's prosperity, had attained a pinnacle of fame that had embarrassing results. For if the king was the personal embodiment of his country's and his people's welfare, he became at the same time a danger to the State if he should become unable to perform the necessary ceremonies. Hence the onset of illness or old age in the king was regarded as a reason for killing him and replacing him by a younger man.

In later ages the belief seems to have developed that the killing of the king had some causal relationship to the blood-red inundation of the Nile and the commencement of the year. It is interesting to note that the same associations were observed in Babylonia, as Professor S. H. Hooke has explained,¹ although there is a certain dislocation of some of the events.

A complex fabric of belief was being spun, the various threads of which included the practice of agriculture and irrigation, the cultivation of barley, the conception of human destiny as controlled by a celestial cow identified with the moon, and a calendar-

¹ *New Year's Day*, p. 25.

maker who became the controller of irrigation, the first king, the creator of the dry land and the giver of life. In examining the evidence relating to the spinning of this wonderful fabric we are witnessing the beginning of the most momentous event in the history of the world—the birth of civilization and religion, which at first was little more than the theory and practice of life-insurance for safeguarding the life of the king, not necessarily from any sense of loyalty or devotion to him, but because he was believed to protect and endow with prosperity the State and every individual subject in it.

Other events, however, were required to confer divinity upon him and to direct the growing civilization into new channels to express the birth of the gods.

At the moment what I wish to emphasize is the genetic connection between the ideas we have been discussing and the facts revealed by the graves of the Upper Palæolithic period in Europe.

Ever since men realized the dangers to which their lives were exposed they had been searching for some rational means of averting them. There are abundant signs in the earliest graves of men of our species (which have been found on the coast of the Riviera and in France, Spain, and Moravia) that blood (or blood-coloured earth) was one of the first life-giving and death-averting elixirs used for the protection of life and existence. It is probable that this was due not only to the assumption that the red stuff (whose escape from the body could cause death) was itself the life-substance; but also to the further belief, still entertained by some aboriginal Australian peoples, that red ochre consists of menstrual blood. The cessation of menstruation during pregnancy suggested

to them the belief that the blood so retained was the stuff out of which the new life of a child was formed. We know that the people of the Upper Palæolithic phase of culture in Europe were in the habit of making grotesque models of women, presumably as life-giving amulets. As woman was endowed with the power of bearing children, she was a life-giver. Hence a model of the maternal form, or a shell that symbolized the mother's distinctive function in giving birth, was believed to be potent as an elixir of life. The attributes of this amulet became merged, firstly with the moon's supposed control of the cycle of the life-forming blood, and secondly with the cow's maternal function of providing milk to sustain human children.

Out of these vain imaginings there gradually crystallized the conception of a life-giving amulet which was at one and the same time a woman, a cow, and the moon. Thus was born the Divine Cow (afterwards called Hathor), who came to be identified with the moon as the celestial controller of the functions of life-giving and the regulator of human destiny.

There then arose a remarkable situation. The engineer-king by whom the country was ruled was, as we have seen, the dispenser of prosperity and the averter of famine for the whole population. He was not only the interpreter of the life-giving functions of the moon and the regulator of the life-giving waters of the river, but—a still further step—he came to be identified with the river and to be himself its source of life. Hence when he died he received an apotheosis and became the god Osiris, who usurped many of the life-giving functions of the Divine Cow and moon-goddess. Hence Osiris ultimately came to

be symbolized as a bull and to be identified with the sun. But the emergence of this Sun-god, who was called Re, probably took place in Lower Egypt as the result of a new circumstance: the substitution of the more accurate solar calendar for the rough-and-ready Nilotic and lunar calendar.

Many important events had taken place, however, before Re supplanted Osiris.

The dead king became the god Osiris when the device of embalming made it possible to prevent the disintegration of his body. For when the corruptible body was made incorruptible, it was believed that the mortal man had put on immortality, which was the distinctive attribute of divinity. At first the attainment of immortality was the exclusive privilege of the king, who became a god only when he was mummified. The embalmer's art led to the creation of the first gods. Mummification was at first the only means of reaching Olympus.

As we have seen, the conviction that the life and prosperity of the whole community, and of every individual unit in it, were in the king's keeping made it a matter of intense personal interest for the people to safeguard his welfare and to prolong his beneficent existence even when he appeared to be dead. Hence the practice of mummification—the procedure adopted to secure such a prolongation of the king's existence—came to be regarded as the essential factor in the deification of a dead sovereign.

It is easy to see the way in which the measures taken for protecting the bodies of the dead not only stimulated the development of the crafts of the carpenter and stone-mason, of the painter and sculptor, but in addition were the cause of the development of the art of architecture. The earliest attempts at

genuine architecture are revealed in the erection of tombs, and in particular of their superstructures, the chapels where offerings of food were made and ceremonies performed to reanimate the mummies or portrait statues representing them.

It was not merely the material arts and crafts that were inspired by these physical attempts to snatch at immortality. The most sacred beliefs concerning the possibility of attaining a prolongation of life after death were founded on the conviction that the king could control human destiny, and on the assurance that his powers were not destroyed, but rather enhanced, by his translation to the source of all life, whether this was in the underworld or in the sky. The ritual ceremonies that were performed to reanimate the king's mummy or portrait statue, and to mimic the events of his life, death, and resurrection, were the origin, not merely of religious ritual and ceremony, but also of the drama and dancing, of music and games.

With all this, however, we have by no means completed our survey of the developments which were rendered possible through this original complex of conditions in the Nile Valley. For example, the traffic across the Eastern Desert introduced shells from the Red Sea for the industrial and cultural needs of the people of Egypt, and incidentally was responsible for inaugurating the use of gold, this being probably the first time in the history of the world that mankind paid any attention to metals. In all probability the place where this momentous event occurred—the Wady Alaqi in Nubia—also provided malachite, which appealed to the dwellers on the banks of the Nile by reason of its green colour. This they associated with the life-giving properties

of the early flood of their river, which conferred life on the grains of barley. The cultural use of malachite as an elixir of life prepared the way for the extraction of the metal, copper, and the inauguration of the true Age of Metals.

Again, symbolism of the moon, the milk-providing cow, the rôle of Sirius as the forewarner of the dominating sun, prepared the way for the belief in a sky-world or heaven controlling the destinies of men upon earth. This led to the development of a belief in fate and a system of astrology, out of which many centuries later the modern science of astronomy emerged.

While this process was taking place the Egyptians had to build up a complex system of administration and priestcraft, a system which shaped the political and social organization of the world at large and provided also the religious ritual and the ceremonies of coronation and marriage.

Religion and mythology; dress and drink; furniture and houses; art and architecture; music and dancing; that symbolism of animals which afterwards found expression in totemism, crests, and flags, dragons and magic wands; the art of writing and the materials for its practice, the earliest methods of medicine and surgery—these and the thousand and one devices of civilized life were first developed in Egypt as part of the legacy of her precocious civilization to the world.

CHAPTER IV

THE BEGINNING OF METAL WORKING

"With the discovery of metals, and notably the application of copper and its alloys in Neolithic times, we have one of the great turning-points, if not the greatest, in the history of human development, the first-birth of the germs of that civilization and culture to which we have attained at the present day."

WILLIAM GOWLAND (1912).

PROFESSOR LETHABY has described architecture as the matrix of civilization: for, he says, "the art of building is concerned not only with single structures but with cities, and hence with whole countries, for Egypt, Greece, and Italy were groups of cities rather than geographical spaces empty of men and dwellings." But this matrix itself was not made until men had devised metal tools to work wood and stone, and created the crafts of the carpenter and stone-mason which were necessarily the preliminaries to the development of architecture. In course of time the metallurgist forged also the machinery of civilized life, and exerted an influence so widespread that it is difficult to estimate its range.

The discovery of metals had little immediate connexion with the invention of agriculture, beyond the fact that the latter made possible a settled mode of life which favoured such a development; yet civilization could not have appeared as it did in Egypt if a lucky chance had not provided the metals, which, from 3500 B.C. onwards, played so large a part in the process of building it up. The symbolism

of the river—its vital greenness in a certain phase—seems to have played some part in the discovery of copper.

Gold appears to have been the first metal which was used by man and, in the writings of the Greek poets, to have given the distinguishing mark to that phase of man's career which was brought to an end by the introduction of the use of harder metals and the organized warfare that was conducted with implements of bronze and iron.

Long before the use of gold, men and women had been accustomed to wear necklaces, bracelets, and girdles made of shells, the teeth of animals, the vertebræ of fish, and beads made of such materials as red carnelian. These objects were chosen at first not primarily for æsthetic reasons, but because they were believed to exert a magical influence, protecting and strengthening the wearer. The shells and carnelian beads were symbols of life-giving in the wider sense of death-averting. The teeth of ferocious animals were believed to protect the wearer, since they conferred powers of aggression upon their original owners. Vertebræ were symbols of strength and stability, the uprightness of a body with a vertebral column. But when gold was introduced for making models of the life-giving shells, the lightness and beauty of the objects not only added to its magical reputation as the incorruptible substance of immortality and divinity, but also made it attractive for its own sake. The appeal of gold as a material for making jewellery which first arose out of its magical use has survived throughout the sixty centuries since it first came into fashion.

Another factor came into operation to add to its attractiveness—the arbitrary value it had incident-

ally acquired made it the material of wealth ages before it became the recognized standard of currency. When a metal is credited with possessing a divine character, and is regarded as potent to protect life, it is naturally sought after by people anxious to secure such powerful religious and social boons. But the mere desire to obtain it confers upon the metal a value apart from its imaginary potency as a spell-worker. Hence, gold became the material of tribute paid by one State to another. It was identified with the divine life of the gods, and was lavished upon the mummies of dead kings to ensure their attainment of the divinity of celestial beings. In course of time its arbitrary value and religious reputation made it the material of currency—not merely a standard of values, but the instrument whereby commercial development has been rendered possible.

In the Predynastic graves of Egypt and Nubia sea-shells are common; and it is of interest to note that in the great majority of cases the shells were brought from the Red Sea, and not from the Mediterranean. This provides concrete evidence of the fact that intercourse was maintained across the Eastern Desert between the Nile Valley and the Red Sea. Year after year the travellers in the Nubian valleys must have noticed the glittering yellow metal which, in vast quantities, was lying exposed alongside their path—a substance to which their predecessors had attached no more value than does the aboriginal Australian or Papuan at the present day. The trafficking that was going on in these Nubian valleys was largely concerned with supplying the demand for Red Sea shells which was made by the dwellers in the Nile Valley. Some of these shells were needed for purely domestic purposes, as vessels to hold

cosmetics. But the cowries and snail-shells had already acquired a reputation for magical virtues. They were regarded as amulets potent to protect and prolong life.

In his book, *Shells as Evidence of the Migrations of Early Culture*, Mr. Wilfrid Jackson has collected a most impressive mass of evidence to establish the fact that from the earliest times the members of our species (*Homo sapiens*) have regarded certain shells as elixirs of life and sought for them far and wide as amulets credited with tremendous magical powers.

In the Nile Valley at a very early period the people had already begun to make models of these shells in clay and stone, and in fact in any material that came to hand. It seems as though the demand for the natural amulets had become so great that it was difficult to supply it. Hence imitations were made under the belief that the virtues of the shells were inherent in their form. Amongst the materials used for making such imitations was the soft plastic metal found in such profusion in the Eastern desert.

Once gold models of shells were made, their intrinsic beauty rendered the metal itself attractive.

When we consider that for countless thousands of years men had attached no value to gold, it is very significant that in all the ancient civilizations the metal had a high religious importance as a divine substance, the material of the gods and of immortality. The arbitrary circumstances that were responsible for conferring this reputation on gold emphasize the deep significance of its association with early civilizations—in Egypt, Babylonia, Crete, Anatolia, Greece, India, China, Mexico, Central America, and Peru. The attributes of gold thus afford one of the most emphatic testimonies for the

unity of civilization and the world-wide diffusion of its cultural capital.

I turn to the development of the working of copper. The earliest evidence of its use in the history of the world is afforded by the contents of graves in Upper Egypt, which Professor George A. Reisner has assigned to the Middle Predynastic Period—a time definitely several centuries earlier than that of the copper objects recently found at Ur and Kish in Sumer and at Susa in Elam. Even if it were admitted that the Sumerian objects are as early as 3500 B.C.—a claim that is far from being established and is not justified by the available evidence—this would not make the use of copper in Sumer as early as the Egyptian Middle Predynastic period.

Dr. Reisner has given a further reason in support of his contention that copper was first used in Egypt. In the graves of Predynastic Egyptians the corpse is usually provided with a piece of malachite and a slate palette for grinding it with resin. It was probably not simply a face-paint, but a life-giving elixir. The Predynastic Egyptians were using malachite for such purposes for several centuries before copper was known. This fact reveals the predisposing circumstances that created the conditions for acquiring in Egypt the knowledge of how to extract the metal from the ore. For it must often have happened that some of the cosmetic paste fell into a charcoal fire and produced beads of gold-like material. Some man endowed with scientific imagination conceived the idea of doing intentionally what had hitherto only happened by accident, and not only devised the means of extracting copper from malachite, but by so doing incidentally invented the practice of metallurgy. Probably he even achieved

a great deal more than inaugurating the Age of Metals and bringing the Age of Stone to an end. The demonstration of the fact that a metal in some respects resembling gold could be extracted from a very dissimilar material like malachite raised the hope, from which it took fifty centuries to wean mankind, that even gold itself might be manufactured, if only the Philosopher's Stone could be found or created by alchemy. In the course of this persistent striving to discover the elixir of life and to transmute base substances into immortal gold the science of chemistry was born and the conditions of human life and activity, even civilization itself, became transformed.

Thousands of years before this happened the smelters who were extracting copper discovered in the slag of their furnaces the secret of how to make glazes for pottery, and eventually how to make glass. Many centuries afterwards one of the indirect results of this discovery was the making of porcelain in China.

Quite apart from such by-products of the invention of metal working, the realization of the use of copper and the creation of the magical value of gold provided some of the most potent incentives for exploration. For it impelled men to embark on world-wide adventures, which brought about that intermingling of peoples and cultures which has ever been the most potent stimulus for the advancement of knowledge and the progress of civilization. The prospector and the miner were the great pioneers in the diffusion of civilization.

To return to the discovery of copper. The copper ore was first obtained from the same place as the gold—in particular from the Wady Alaqi in Nubia;

and the metal extracted from it seems at first to have been regarded as a sort of gold, the material for making bands and personal decorations. In course of time men learned to appreciate the fact, which seems so obvious to us who know of it by age-long experience, that needles, fish-hooks, and chisels could be made from copper. With the invention of the metal chisel the crafts of the carpenter and stone-mason as well as the art of architecture were made possible. But it remained for the development of burial customs to suggest on the one hand the need for shaping and joining wood and cutting stone, and on the other the creation of the rock-cut tomb and the stone temple.

At first copper was worked like the softer and more malleable gold. It was hammered into shape or worked like a hard stone. But before long men discovered that, as the molten metal in escaping from their furnaces assumed the shape of any concavities into which it flowed, they could make objects of definite forms by providing moulds into which it could be poured. With the introduction of the practice of casting, the craft of metal-working may be said to have entered upon the first significant phase of its career. It was not until fifteen or more centuries later that the next great revolution occurred: the alloy bronze was invented, and still later came the introduction of iron and steel.

Long before copper and tin were intentionally mixed to make the alloy, metal tools were being made that could be employed upon granite and the hardest rocks. The copper chisels used for cutting stone in the making of the tombs and temples of the Pyramid Age had a hardness and a temper that for a few strokes rendered them as efficient as steel tools;

they could cut limestone, granite, and diorite. This was due in part to the presence of impurities like the oxides of copper, which were mixed with the metal as the result of the method of smelting the ore. The temper was given to the cutting edge of the chisel by beating the metal with large pebbles, an operation which had to be performed repeatedly if the usefulness of the implement was to be maintained.

We have no certain knowledge of how the discovery of bronze was made. Obviously it must have occurred in some place where tin occurs under such circumstances as might repeatedly have brought it into the furnace along with copper ore, so as accidentally to form the alloy bronze, the hardness of which the smelters would learn empirically to appreciate. In course of time they would intentionally imitate the procedure which by chance had given them the more valuable alloy. All the known facts seem to point to some place in northern Persia—perhaps near Meshed—as the most likely site of this epoch-making discovery.¹

Once the economic value of tin was recognized, an intensive search for it was prosecuted. Prospectors set out to the west to range over Italy, Spain, and Britain for the metal, and bring it back with them to Crete, Egypt, Syria, and the Ægean. The knowledge of the new process in metallurgy also spread—though somewhat later—to Europe, Eastern Asia, and in course of time to the Pacific littoral of America.

The importance of the Age of Bronze as one of the most momentous phases in the world's history

¹ In the article "Anthropology" in the 12th Edition of the *Encyclopædia Britannica* (1922, p. 151) I have given a summary of the evidence that suggests the probability of the invention of bronze in Northern Persia at some time between 2500 and 2000 B.C.

is generally recognized. All the evidence at our disposal suggests that the great innovation is to be attributed to some unknown artificer working somewhere to the east of the southern end of the Caspian Sea.

There seems to be definite evidence of the use of iron for bead-making as early as the fourth millennium. The Predynastic Egyptians and the Sumerians worked meteoric iron as they did many other hard materials for similar purposes. But it took twenty centuries—after this sporadic use of chance discoveries of iron—for men to discover how to extract iron from its ores and to appreciate the valuable properties which this hard substance possessed. In the tomb of Tut-Ankh-Amen (1353 B.C.) there was found an iron dagger.

We do not know how the discovery of the means of extracting iron from its ores was made. But as hematite and other iron-bearing materials were being used for many centuries before the Iron Age as pigments and for making glazes for pottery, it only remained for the man of insight to put this knowledge to practical use. Nor do we know where the discovery was made: in all probability Asia Minor was the home of iron-working on a large scale. The Hittites seem to have controlled the manufacture of iron tools to begin with: but it soon spread to Troy and Greece, to Syria and Assyria, and even as far afield as India, where the valuable ores of Hyderabad were waiting to be exploited. The various peoples of the Mediterranean, who became allies or mercenaries of the Hittites in their campaigns against Egypt, acquired from them a knowledge and experience of iron weapons, which they took with them to Italy and the western Mediterranean. But in spite of its

obvious advantages for weapon-making, iron was not generally adopted in Europe for many centuries to come. In Northern Italy, which by 1000 B.C. had acquired a high reputation for metallurgical skill, iron was only just coming into use. In the Danubian area and Switzerland and in Eastern France and Southern Germany iron-working gradually extended during the next three centuries. But iron was not worked regularly in Europe as a whole until 400 B.C.

CHAPTER V

MUMMIES

"So when this corruptible shall have put on incorruption, and this mortal shall have put on immortality, then shall be brought to pass the saying that is written, Death is swallowed up in victory."

I CORINTHIANS XV. 54.

"A great part of antiquity contented their hopes of subsistency with a transmigration of their souls—a good way to continue their memories. . . . Egyptian ingenuity was more unsatisfied, contriving their bodies in sweet consistencies, to attend the return of their souls. But all was vanity, feeding the wind, and folly. The Egyptian mummies, which Cambyzes or time hath spared, avarice now consumeth. Mummy is become merchandise, Mizraim cures wounds, and Pharaoh is sold for balsams."

SIR THOMAS BROWNE (*Hydriotaphia, Urn Burial*, 1658).

NEITHER agriculture nor metallurgy, alone or in combination, would have taken mankind far along the path of progress unless a third factor had been present—the wider vision and the imagination to create the spirit of inquiry and the idea of progress.

Recent research, to which reference is made in Dr. Perry's *Gods and Men*,¹ has forced us to recognize the surprising fact that the central motive in the history of civilization has ever been the ideas associated with the Egyptian practice of mummifying the dead.

This claim no doubt seems utterly fantastic. Yet there is conclusive evidence (summarized in Dr. Perry's book) to demonstrate that the earliest con-

¹ *Gods and Men : The Attainment of Immortality*, by W. J. Perry.

ception of a god in Egypt, India, and elsewhere, is a dead king whose body has been mummified and then assumed to be restored to life by appropriate ceremonies. The whole idea of the possibility of restoring the dead to life seems to have arisen from the ritual of mummification. The ceremonies of coronation and marriage, the initiation of medicine men, and the rituals of temple and churches, as well as the conception of immortality, are among the results of the practice of embalming. It is certainly connected with the development of architecture, with the cultivation of the arts of the painter and sculptor, of the carpenter and the stone-mason. It is no exaggeration to claim that the ideas associated with the practice of the embalmer's art have been the most potent influence in building up both the material and spiritual elements of civilization.

The growth of settled communities as towns in the narrow ribbon of land on the banks of the Nile forced the Early Egyptians to solve the problem of the disposal of the dead. Among really primitive people like the Punan of Borneo, there are, even at the present day, no funerary ceremonies. The bodies of the dead are simply left where death came to them, without burial or ritual. Under the circumstances of such a mode of life as that which was adopted by the Predynastic people of Egypt, it was essential to put the corpses away, and this was done by scraping shallow holes in the sand in which to cover them. The action of the wind in blowing away the sand, and the depredations of jackals, as well as human grave-robbers, soon made the early people aware of the fate of the corpse, especially as in many cases it became dried and was thus spared from destruction by putrefaction. In view of these

natural facts it must be something more than a mere coincidence that the Egyptians came to attach special importance to the preservation and protection of the bodies of the dead. They regarded the corpse's exemption from corruption as a real prolongation of its existence, an idea which gradually became extended until eventually, many centuries afterwards, it developed into a belief in immortality.

Hence they began to devote particular attention to the welfare of the dead. The body was wrapped in linen, which seems to have been invented in Egypt, possibly for this special purpose. The bandaged corpse was then put into the skin of a goat or ox, further to protect it from contact with the sand, or it was placed upon a sheet of matting, and measures were taken to prevent the sides of the grave from falling in or coming into contact with it. These procedures seem to have been responsible for the invention of several crafts, such as carpentering and brickmaking, as well as the manufacture of pots big enough to contain the bent-up body of a man.

The use of the skin was abandoned when other means were devised for keeping the sand out of the grave. The Predynastic Egyptians were experimenting in a variety of methods for achieving this end. One of these was the invention of mud bricks, which was arrived at by imitating what happened each year after the fall of the river to the material deposited by the inundations, when the sun-baked mud cracked to form natural bricks. Another was the practice of making in the grave a palisade of sticks stuck vertically in the sand. Yet another method was the construction of a large pottery coffin to contain the body.

For the moment I want to consider the effects of

the second method, the use of wooden sticks, which had momentous consequences. For when copper tools were invented, one of the first uses to which they were put was to shape slabs of wood for insertion in the grave as a more efficient barrier than a palisade of sticks. Four boards of wood placed around the corpse made a retaining wall to hold back the sand. When this had been done, some inventive genius conceived the idea of joining the boards together before putting them into the grave, and so providing the box with a floor and a roof to make a wooden coffin. In some such way the craft of the carpenter was devised.

The brickwork was not abandoned, however, when an efficient wooden coffin was invented. For the coffin was put into the larger brick-lined burial chamber, which continued to grow in size as the offerings increased in number. As the assurance of a continuation of existence became strengthened, the care bestowed on the dead became increasingly efficient: larger quantities of food were placed in the grave, which by the close of the Predynastic period had developed into a large rectangular subterranean chamber often divided by compartments into several rooms, roofed with beams of wood, above which a mound of rubble was erected with mud-brick walls to retain it. Then it became necessary to construct a stairway to give access to the deep subterranean house which had thus been evolved for the dead.

So long as the bodies were buried in contact with the dry sand, they often became desiccated; and there can be no doubt that this natural process of preservation suggested to the Egyptians the concrete idea of the prolongation of existence after death.

Long after such a conception had become an integral part of Egyptian belief, and had perhaps prompted the more lavish provision for the dead in their tombs, the fact of the enlargement of the burial-chamber and the exposure of the body to the air conduced to its disintegration and so defeated the very purpose of all the elaborate preparations for its welfare.

Being persuaded that a prolongation of existence could be attained only by making the corpse incorruptible, the Egyptians set to work to devise some means for its artificial preservation.

The problem we have to solve is: how did they discover that salting and drying could achieve what they desired? Perhaps Herodotus can throw some light on this matter. He tells us (II, 77) that: "Many kinds of fish they [the Egyptians] eat raw, either salted or dried in the sun," a procedure which we know from the records of the Egyptians themselves to be vastly older than the time of Herodotus. It is curious to note the intimate association between the practice of mummification and the preserving of animal and vegetable food by salting, drying, spicing, or steeping in honey. It seems possible that the preservation of fish by drying and salting may first have suggested to the Early Egyptians the means of realizing their wish to embalm the bodies of their relatives. It is even more startling to discover that the most essential part of the original process of attaining divinity may be identical in method and origin with the method of pickling pork! Yet there can be no doubt of the fact. Religious ritual, the drama, dancing and music, games, the ceremonies of coronation and marriage, and most of the various expressions of the deepest desires of the human heart were all—to use a phraseology which expresses the

archaic physiology so intimately linked with this train of thought—crystallized around the Egyptian practice of embalming, whereby the mortal body of the king was believed to put on immortality. Embalming was the essential procedure for attaining immortality. Hence the materials used for embalming were called divine, because they conferred divinity.

Discussing Plutarch's views on magic, Professor Lynn Thorndike¹ states that: "At the Symposium the question also is raised why salt is called divine, and it is suggested that it may be because it preserves bodies from decay after the soul has left them, or because mice conceive without sexual intercourse by merely licking salt."

In using for food such things as kippers, smoked bacon, salt pork, sardines in oil, pemmican, dried raisins, dates preserved in honey, or crystallized fruits, we are really eating mummified objects, the method of preserving and storing which is intimately related to the practices of the ancient embalmer. Whether or not the art of mummification was really first learned from the attempts to preserve food, or vice versa, we have not enough knowledge at present to decide. But the idea suggests some interesting side-lights on human behaviour. Do we eat bacon because Cheops was pickled in brine, or was the erection of the Great Pyramid one of the incidental results of a partiality for corned beef? Are we indebted to Alexander the Great's embalmer for dates in honey, or was the appreciation of this delicacy the reason why honey was chosen to confer immortality upon the Macedonian conqueror of Egypt and India?

¹ *A History of Magic and Experimental Science*, Vol. I, p. 213. London, 1923.

Do we powder the surface of our pickled hams with spices because the mummy of Rameses the Great was so treated?

Throughout this book I have emphasized again and again the intimate association between the mummification of the king and the attainment of divinity. The dramatic performances that are conducted at his tomb aim at giving reality to his revival by living again through the episodes of his passion, and overcoming his enemies. Thus, as the New Testament expresses it, death is swallowed up in victory.

The conversion of the dead king into a god, and the deification of the living king by identifying him with his divine ancestor, brought about an intimate assimilation of king and god, which led to results that have had a permanent influence upon such ceremonies as coronations and marriages.

Perhaps the most ancient ceremonial of which we have any record is the Egyptian Heb-Sed or Sed-Feast in which the king assumes the costume and insignia of Osiris and impersonates him.¹ The resurrection of Osiris dramatized in this ceremony seems to be part of the ritual for identifying the living king with the dead king or god. The reanimation of the dead king with a new name and divine powers thus became the prototype of the coronation ceremony for the new king, whereby he ceases to be a mere prince or ordinary mortal and assumes the kingship with a new name and greatly enhanced powers.

There is clear evidence both in modern custom and in ancient literature that our wedding ceremony is modelled on the coronation ceremony, which in

¹ J. H. Breasted, *Religion and Thought in Ancient Egypt*, p. 39.

turn, as we have just seen, is an imitation of the deification of Osiris. In Russia and elsewhere even at the present day the bride and the bridegroom are crowned, like the queen and the king at a coronation. In the folk-customs of certain parts of Europe the double symbolism of marriage as a coronation and the birth of a new life is still preserved.

At a cinema-theatre in London some years ago there was shown a romantic story based on the well-known poem written by the Spanish poet Calderon in the seventeenth century. The scene opens with a band of Spanish gipsies celebrating that marriage ritual which has since attained such world-wide fame in the legend of the Sleeping Beauty. The bride, swathed in bandages like an Egyptian mummy, is carried in a mock funeral procession and put into a coffin. She is dead to the past, and is about to take on a new life with a new name, just as in the Egyptian funerary ritual the dead king, in virtue of his mummification, attains a new lease of existence and is believed to be raised from the dead to a new and divine life, at the same time receiving the new name of Osiris.

The Spanish classic has preserved in this romantic story one of the essential threads of the fabric of human belief—the attainment of immortality and the rebirth to a new existence. The coronation ceremonies of the present day, whether in England, Siam, or Japan, represent other survivals of the same ancient ritual of mummification and reanimation, converting in another setting a prince into a new being, the king, and giving him another title to symbolize the new life conferred upon him. But the particular point that concerns us at present is that in primitive marriage ceremonies the bride-

groom and bride were regarded as king and queen, and the wedding ritual was a coronation inaugurating a new life for the wedded couple. In his book *Kingship*, Mr. A. M. Hocart has called attention to the survival of this ancient practice in Burma.

The interest of the Spanish gipsy ritual of the seventeenth century lies in the fact that it provides a dramatic confirmation of the whole story (worked out in *Gods and Men* with penetrating insight by Dr. Perry) of the derivation of the wedding ceremony and the bride's regalia from the mummification ritual of the Pyramid Age. There is now a vast collection of evidence to show that all initiation ceremonies, not only those of medicine-men in Australia and North America, but also those of members of secret societies in every continent, are modelled essentially on the ritual of mummification. Intensive studies of the beliefs and practices of the ancient peoples of India, Australia, and North America have revealed the deep underlying unity of the motives of primitive people.

It is not altogether clear how the marriage ceremony became drawn into this circle of symbolism. Dr. Perry has called attention to the fact that in India the king could not be consecrated except in association with his wife (p. 52). In *New Year's Day*, Professor Hooke tells us (p. 25) that the central feature of the Babylonian New Year celebrations was the sacred marriage of Ningirsu and Ba'u to ensure the success of the next year's crops. The ancient people identified the processes of inundating the land (on New Year's Day) with the physiological act of human fertilization. In several Semitic languages the same word is used for the two acts, which were both regarded as "spilling water." As a conse-

quence sexual orgies on New Year's Day were regarded as ritual methods of promoting the fertility of the cereal crops. Probably there is some more specific reason for the identification of the marriage ceremony with the Osirian resurrection. In one version of the story the first act of Osiris, after the fragments of his body had been gathered together and reanimated, was the procreation of Horus. This sacred union of the deified Osiris with Isis was an essential part of the story, for it offers an explanation of the divinity of Horus. Moreover, the king's claim to the throne was based upon the matrilineal rights of his wife. Hence he could not succeed to the kingship except by marriage to a wife who by birth was entitled to confer this rank upon her husband.

As with all the most cherished ideas of early man, the underlying motive here is the giving of life and the averting of death. The fundamental conception in the ritual of every religion is that of life-giving. Professor Canney has called attention¹ to the fact that the same Greek word *sōtēr* is used in the New Testament with reference to Christ and in Greek literature is applied to Zeus, Apollo, Hermes, Asclepius, Hercules, and Aphrodite: but whereas it is rendered "Saviour" in our Bibles, the Syriac version makes it plain that its real meaning is that of "The Giver of Life."

The most fundamental instinct of all living creatures, in virtue of which they preserve the life that is their distinctive attribute, becomes articulate in the principle of every religion.

By the ancient Egyptian ritual of embalmment the existence of the dead king was believed to be con-

¹ Maurice A. Canney, "The Meaning of 'Salvation,'" *Theology*, August, 1927.

tinued; and with his new lease of life he was given a new name and accredited with new powers for securing the prosperity of his kingdom. The "House of Gold" in which these supernatural attributes were conferred upon the dead Pharaoh was the embalmer's laboratory. It is the "Cave of Treasures" to which the Mesopotamian author refers in the remarkable book Sir Wallis Budge has translated with the title *The Book of the Cave of Treasures* (1927). This strange story of Christ's descent from Adam is supposed to have been composed in the fourth century from the Biblical narrative with the addition of much traditional material from Babylonia, Persia, Syria, and Egypt that does not appear in the Old or New Testaments. The precious substances in the cave where Adam and Eve are said to have taken refuge after being expelled from Paradise were gold, frankincense, and myrrh, the materials in readiness for embalming the body of Adam when he should die. In this Aladdin's cave there was a magic lamp alongside the mummy, which Adam's son had duly embalmed and mourned for forty days. This was said to be Adam's preparation for waiting with his descendants for the coming of Christ. His descendants were instructed that when they go forth from the country around Paradise they shall take Adam's mummy with them and deposit it in the centre of the earth: for in that place (Golgotha, where Christ's cross was to be erected) "shall redemption be effected for me (Adam) and for all my children."

Sir Wallis Budge, who has made this Syriac document accessible to readers, seems to suggest that the references to mummification are not an essential part of the story. But the widespread practice, which still survives among many peoples, of carrying

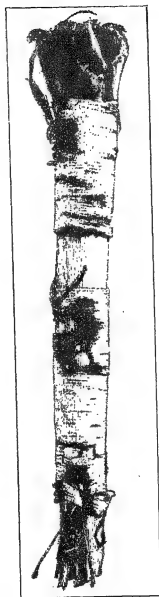


FIG. 4.—An Australian "Medicine Bundle"—a Wrapped Object Representing the Mummy—the Relic which is Essential in Magical Ceremonies of Creation and Life-giving.

about with them the mummies of their ancestors, or the so-called "medicine bundles" that represent the mummies, testifies to the reality of the ancient belief (still alive in Christian Europe) that the relics of dead rulers could confer security and prosperity upon their land and people.

In his book *The Arunta* (1927) the late Sir Baldwin Spencer tells us (Vol. II, pp. 391 *et seq.*) that in the heart of Australia—to be exact, about 14 miles to the south of Alice Springs—there is a cave in a range of hills, which is supposed to be occupied by the Iruntarinia, or spirit individuals, each of whom is regarded as the double of one of the ancestors of the tribe, or of some living member, as each of these is but the reincarnation of an ancestor.

The Iruntarinia have the reputation of being able to make "medicine-men." The candidate lies down to sleep at the entrance to the cave. During his sleep he is said to be shot dead by invisible arrows, and his corpse is carried into the cave, where the Iruntarinia are supposed to live in perpetual sunshine amidst streams of running water. This Arunta paradise is said to reach as far as the Edith Range, ten miles away.

When the candidate's "corpse" is taken into the cave, so the aborigines maintain, the Iruntarinia remove all his internal organs, and, after providing a completely new set, reanimate him, like the Egyptian Osiris, as a new being, with a new name and new powers. In other words, the candidate graduates as a medicine-man, and is now equipped to practise his craft. But just as the Mesopotamian Cave of Treasures was equipped with gold as an elixir of life, so the imaginary Arunta embalmer's workshop has quartz (the matrix by confusion has acquired the

magical reputation elsewhere associated with gold (it lodged) or magic stones to combat evil influences.

These ideas are not peculiar to the Arunta, but are widespread in the eastern parts of Australia, where my friend Dr. A. P. Elkin has worked out the details of the connection of these beliefs with the actual practice of mummification, and shown that the "medicine bundle" itself, the medicine-man's magical apparatus, is either the actual mummy of an ancestor or objects believed to represent it. The magical instrument known as the *churinga* represents the afterbirth (placenta) or double of its possessor, or, in accordance with the belief in reincarnation, his ancestors (what the modern biologist would call the ancestral germ-plasm).

The train of reasoning whereby this secret helper of an individual came to be represented by an object of stone or wood is unintelligible unless one compares the Indonesian beliefs concerning the so-called "crocodile" standards, or the Egyptian doctrine of the *Ka* and its habitation in a statue of stone or wood, which is a surrogate of the mummy.

The information provided by Sir Baldwin Spencer definitely links up Australian beliefs with those of the Malay Archipelago and Melanesia, and also, as Dr. W. J. Perry has shown in his book *Gods and Men*, with those of the world at large.

CHAPTER VI

SOCIAL ORGANIZATION. TOTEMISM AND THE DUAL ORGANIZATION

"The totem was generally looked upon as the ally of the ancestor of the clan and was usually called his blood-brother. . . . The ancestor generally took the name of his ally, but was not confused with it. Hence the Indians spoke of themselves as children of the 'Totem,' referring to their real human ancestor. Real cases where they believed they were descended from the totem were rare. . . . In all these languages (Araucanian, Quechua, Aymará, Chipaya, and Moxo) the term used to express totem means "brother." "

R. E. LATCHAM, "Totemism of the Ancient Andean Peoples," *Journal of the Royal Anthropological Institute*, 1927.

"Whenever a woman bears a child she is delivered at the same time of a leopard, for that is the name, 'ngo,' by which the after-birth, 'the brother born at the same time,' goes."

E. TORDAY, "Dualism in West Bantu Religion and Social Organization," *Journal of the Royal Anthropological Institute*, 1928.

BEFORE the creation of civilization the only grouping of human beings was the natural one of the family which man inherited from his simian ancestors. With the invention of agriculture the adoption of a settled mode of life in villages involved the herding of numbers of family groups in close association with one another, and eventually created the need for some sort of working arrangement for associating the family groups in clans. Three circumstances, however, combined to shape the form of the earliest social organization: the invention of totemism, the institution of the kingship, and the subsequent cur-

tailment of the king's powers, which led to the emergence of the Dual Organization.

Totemism—a term derived from a word *totem* imputed to American Indians by Long in 1791—is the name given to a peculiar series of beliefs (and customs that are inspired by them), in virtue of which (a) a definite social group of the community is connected or identified with some animal (or plant or inanimate object) that is regarded as its totem; (b) the members of this group of people are believed to be genetically related to the totem, which is often regarded as their twin or parent; and (c) special respect is shown to the totem—if a plant or animal, it may not be eaten, or if an inanimate object, it may not be used, or used only with certain restrictions.

When the development of the village settlement involved the association of many family groups in one community, some new social adjustment became inevitable. The idea which developed out of the attempt to interpret the amazing discovery that the cow could act as a foster-mother of human beings by supplying them with milk led to the speculation that the Divine Cow was the parent of the community. As each family had its natural mother, so the community was a larger family linked together by their assumed common parentage. Attempting to rationalize this hypothesis and to correlate it with other speculations arising out of the early attempts to interpret the phenomena of birth and life-giving, the earliest biologists built up a theory of totemism. The two quotations at the head of this chapter reveal the fact that both in Africa and America (and also, as I have shown in *Human History*, in other parts of the world) the original totem was not the earliest ancestor of the group or clan, the king

who created his subjects, but his "twin" or placenta. The people who framed this hypothesis were trying to understand the origin of life for the purpose of adopting measures for protecting their own lives—that is, averting death and disease. They seem to have arrived at the idea that the placenta consisted of the life-stuff which, so to speak, was left over when the foetus was formed. Thus it was the child's twin, a reserve of life which could be put at the service of the child to protect it. Why the placenta should have been identified with an animal is not clear. Whether the belief that, in addition to its natural mother (the family ancestor), each individual of the first totemic clan had another mother, the Divine Cow (the clan ancestor), necessitated the identification of the twin (placenta) with the animal is not clear. We do know, however, that the totem was the original ancestor's placenta, the ancestral germ-plasm, so to speak, and was apparently identified with the Divine Cow. As other clans adopted this curious practice they adopted other animals, plants, or inorganic substances as their totems, but still regarded them as surrogates of their king-creator's placenta.

Many circumstances helped to introduce new complexities into the development of this peculiar form of social theory. The original ancestor or king when mummified became the god Osiris. His symbol was a pole wrapped in bandages. But, in addition, the king's placenta, the animal symbol of the embalmer (the model of a jackal), and models of the birds that represented Upper and Lower Egypt, were also representatives of the king, and became standards which were regarded as animate forms of the sovereign or his placenta. Out of this circumstance emerged the

symbolism of the flag, not merely as an emblem of the clan or nation, but as an effective animate form of the king.

This system spread throughout a great part of the world. It is so fantastic and arbitrary that it forms an indisputable testimony for the reality of the ancient diffusion of culture.

Totemism is intimately linked with the early kingship, which made inevitable the creation of a new type of social organization. For the king was originally not only an absolute autocrat, who held in his keeping the lives and welfare of all his subjects, but was believed to be the creator and life-giver to whom his people owed their very existence. He was the State and he himself disposed of all the affairs of State. When the king died it was obligatory on his successor to have his body embalmed and to perform the various ceremonies to reanimate him as the god Osiris, and from time to time to repeat the ritual practices that were regarded as essential to maintain the god's existence and power. It was only when the number of temples for these rituals and offerings became too numerous for the king to officiate in person that he was compelled to appoint substitutes, priests to perform the ceremonies of reanimation. As the king delegated these and other powers of administration there grew up a ruling group to govern the country.

The kingdom probably developed first in one small totemic clan. When other clans adopted the new system, the fact of their dependence on the river for sustenance would compel co-operation and eventually the merging of many clans into the same kingdom, until the number of kingships in Egypt became reduced to two, those of Upper and Lower Egypt. Eventually these two were merged into one king-

dom, but only after a struggle, and the two kingdoms under one ruler retained the sort of individuality that the kingdoms of England and Scotland still possess although united under one sovereign.

During the first four Dynasties in Egypt the king was the sole ruler of Upper and Lower Egypt, each of which had its distinctive colour and crown, white for Upper Egypt and red for Lower Egypt.

At the beginning of the Fifth Dynasty in Egypt, the family of Heliopolis came into power, and called themselves the Children of the Sun, this being the first time (2750 B.C.) that this remarkable title, afterwards adopted widely throughout the world, was used. Throughout the Fifth and Sixth Dynasties, the position of Prime Minister or Vizier was no longer held by the king's son, as formerly was the practice, but by a member of another family. The administrative power was in his hands. This introduced duality in the ruling power, and there seems to be definite evidence that the Pharaohs married women of the Viziers' family, while the Viziers married royal princesses. This seems to have been the origin of the system of exogamy, which prohibited a member of the community from choosing a wife from his own moiety. The Children of the Sun, however, were permitted, or even obliged to marry their own sisters and other blood relations.

These intermarrying royal groups divided the government between them. We may assume that their exogamy was primarily intended to stabilize their own position and to eliminate the risk of disruption in the state. Intermarrying between the two moieties would naturally promote cohesion.

In the Fifth Dynasty, as far as we can discover, there was no association between the dual organiza-

tion of the rulers and the territorial division of the kingdom. Both groups seem to have been closely connected with Lower Egypt. But at the beginning of the Sixth Dynasty the family of the Vizier seems to have belonged to Abydos in Upper Egypt, while the royal family was associated with Memphis. This circumstance seems to have been responsible for the merging of the two original elements of duality, that of the rulers and that of the kingdom, and from that time onwards the Children of the Sun were associated with one territorial division of the land and the Vizier's family with the other. This is found at the present day in Macassar (in the East Indies), in Samoa (in Polynesia), and elsewhere.

Thus the territorial division became merged with the duality of rulers, bringing about the completion of the dual organization of society which was a characteristic feature of the Archaic Civilization wherever it occurs throughout the world. There is only one conceivable explanation of the presence of this strangely arbitrary feature of civilization in Australia, Melanesia, Polynesia, North America, and elsewhere. The effects of the historical event which took place in Egypt at the time of the Sixth Dynasty must have been diffused in Asia, Oceania, and America. It can be shown that the earliest form of social organization adopted in these places was precisely this dual system we have been considering.

Dual organization is intimately associated with the totemic clan system, in accordance with which each division of a community regards itself as the descendants of a totem animal, plant, or inorganic substance.

The phase of culture with which dual organization is intimately associated is one which has left its mark

throughout the world in the installation of certain primitive types of irrigation systems, in the building of monuments of stone, generally conforming to types such as are commonly known as dolmens, stone circles, and pyramids, in the making of polished stone implements, and in the earliest types of mining of gold, copper, and other metals, of pearl-fishing, not merely to obtain the pearls themselves but also the pearl shell, and a variety of other equally distinctive material achievements.

It was the search for gold and copper, for pearls and pearl shell that was chiefly responsible for the diffusion of this dual system of organization throughout the world, for it was the miners who went out to exploit these substances who incidentally introduced into each locality they reached the political system which they had learned directly or indirectly from Egypt itself.

The Dual Organization was originally found in the earliest civilization that was adopted in most parts of the world. It has been interpreted by Dr. W. J. Perry in the *Children of the Sun*. One manifestation of this system is revealed by the existence of what are called Dual Villages, arranged north and south of a street running east and west. Each side of the village had a chief. The son of the chief of one side married the daughter of the chief of the other side.

This is the description of the characteristic form of village ruled over in places such as Samoa, Peru, North America, and elsewhere by the Children of the Sun. These two divisions of the community had definite characteristics. The members were not allowed to marry in their own moiety, but had to choose their consorts from the other division—the

principle of exogamy. One side had a sacred chief concerned with peace; the other side had a secular chief associated with war. The Son of the Sun was originally the sacred chief. The two sides were constantly hostile. Each had a distinctive colour-label, corresponding to the red and white of the two kingdoms of Ancient Egypt. This extremely complicated and bizarre form of civilization was introduced throughout the world by the Children of the Sun wherever they went. In most places it was impossible to maintain it in its integrity. It gradually disintegrated because there was no real justification for its survival, as it was not founded on any deep-seated psychological tendencies. It was simply an artificial elaboration, due to certain historical events peculiar to one country.

Examination of the beliefs of the American Indians brings us face to face with what Dr. W. J. Perry has called the Archaic Civilization. A community such as that from which the Pawnee emerged was one ruled over by pure-bred, immortal Children of the Sun. They practised incestuous unions, and were supposed to be born by a process of theogamy. They secluded their daughters. They ruled over dual communities, the two sides of which intermarried. This system can be recognized in several places, not only in America, but also in the Old World, for instance in India, and further west in Egypt—a series of linked communities strung along a thread. The solution of the problem of where this thread started involves the explanation of how the royal family of the Children of the Sun originated.

None of the peoples extending from America westward to India give any hint in their mythology as to how this process really began. We are faced in

all cases with an accomplished fact, with an organized state of society already far removed from primitive conditions. Ancient Indian literature, such as the Brahmanas, for instance, does not throw any light whatever on the beginning of the solar race. The Japanese myths tell us still less. America likewise tells us next to nothing about beginnings.

Fortunately we have precise information of the time and place of origin of the earliest Children of the Sun and the Dual Organization of society associated with them. With their birth there also came into being the belief in the miraculous conception of the Son of the Sun and the practice of incest to preserve the divinity of his dynasty from being tainted by intermixture with ordinary mortals—a term which emerged to distinguish the immortal Children of the Sky from mere earth-dwellers whose ultimate fate is death. The place was Egypt, and the time was the beginning of the Fifth Dynasty, about 2750 B.C. At that time the kings began to use the name of the sun, Re, in their royal protocols; and the eighth king of that dynasty, Dedkere-Isisi, was the first man known to have called himself the Son of the Sun. This puts a precise term to this title, which in subsequent ages was found widely scattered throughout the world, from China to Peru. The doctrine of divine birth, of theogamy (which in later ages and in other religions involved the doctrine of the miraculous conception), took its rise at the same time. For the Egyptians preserved the tradition that the birth of three sons to the sun-god Re, by the High Priestess of Heliopolis, was predicted to Cheops (Khufu), the first king of the Fourth Dynasty. This is the first known instance of the doctrine. It is therefore to Egypt that we must

turn for further light upon the early kingship and its creative functions, particularly as centred round the person of a dead king, the prototype of the ancient Indian god Pragapati.

The association between kingship and godhead was closer in Egypt than in any other country. This is in keeping with the fact that the solar title and the doctrine of divine birth (miraculous conception) can first be detected in Egypt.

The kingship was essentially identical in Ancient Egypt and in India. As a member of the solar line, the Indian king was identified with a series of solar deities. These, as has already been mentioned, are the Adityas, the sons of Aditi, who is the sacred cow. The Egyptian king likewise is made into a god, Horus, and his foster-mother is Hathor, the Divine Cow. Like the king in India, the king of Egypt placed the breath of life in the nostrils of his subjects. The Indian kingship was not simple. The king belonged to the solar line, and was made into a series of solar gods. But one of these gods, Varuna, bears a character that is not wholly solar. He controls the waters, both heavenly and earthly. Varuna is an important god, for one of the consecration ceremonies is said to be his.

The kingship was associated with the Nile, the great source of life, whence all life ultimately comes to Egypt. The first kingship of Egypt, therefore, with which we are acquainted, is what may be called a water-fertility kingship, corresponding to the Varuna-kingship of India.

The Egyptian kings of the Second, and increasingly of the Third and Fourth Dynasties, combined the name of the sun-god of Heliopolis in their own names; for instance, Reneb of the Second Dynasty; Nebkere

and Neferkere of the Third Dynasty; Dedefre, Khafre, and Menkure of the Fourth Dynasty. The sun-god did not become the deity of the State until the Fifth Dynasty, but these names show that the king was already comparing himself to the sun before that time.

As measurer of the year the king was identified with the sun, the celestial measurer. The priests of Heliopolis, the place where the sun-god first attained pre-eminence, paid attention to the sun because they were engaged in measuring the year in connection with the Sothic calendar, which apparently they had invented.

The exaltation of one man to the pre-eminent position of a king occurred at a time when the resources of language were yet inadequate to define his exceptional powers. The appreciation of this want led to two results of far-reaching interest. The king's omnipotence was expressed by identifying him with a series of animals which displayed powers not possessed by man. The strength of the lion, the flight of a falcon, the powers of death-dealing of the cobra, and the special abilities of other creatures all provided symbols of the king's pre-eminence. When it became necessary to represent the king's double or placenta, the actual after-birth was usually replaced by the model of some animal or other totem.

In the slate palette of King Narmer of the First Egyptian Dynasty (*circa* 3400 B.C.) not only is the king represented as a human being, but also as a falcon with a human hand, and the goddess Hathor by human heads provided with cows' horns and ears.



FIG. 5.—The Slate Palette of Narmer found at Hierakonpolis by Mr. J. E. Quibell in 1898.

The palette represents the earliest example of writing that has come down from antiquity. The half-pictorial symbolism of the group including the falcon represents the wider significance of a primitive writing, devised to express the king's power in a new way. (After J. E. Quibell.)

CHAPTER VII

PRIMITIVE RELIGION

"Are there, or have there been, tribes of men so low in culture as to have no religious conceptions whatever? This is practically the question of the universality of religion, which for so many centuries has been affirmed and denied, with a confidence in striking contrast to the imperfect evidence on which both affirmation and denial have been based.

EDWARD BURNETT TYLOR, 1871.

IN the section of his book *Primitive Culture* which opens with this statement, Sir Edward Tylor soon abandoned an impartial attitude and declared his own conviction, to use his own words, "with a confidence in striking contrast to the imperfect evidence."

"At the lowest levels of culture of which we have clear knowledge, the notion of a ghost-soul animating man while in the body is found deeply ingrained. There is no reason to think that this belief was learnt by savage tribes from contact with higher races, nor that it is a relic of higher culture from which the savage tribes have degenerated; for what is here treated as the primitive animistic theory is thoroughly at home among savages, who appear to hold it on the very evidence of their senses, interpreted on the biological theory which seems to them most reasonable. . . .

"The animism of savages stands for and by itself; it explains its own origin."

During the sixty years that have elapsed since Sir Edward Tylor expressed this emphatic belief in the universality of religion, the progress of knowledge has

failed to reveal any real justification for it. Hence most ethnologists have discarded Tylor's views on animism, and the evidence now available makes it doubtful whether truly primitive people had "the notion of a ghost-soul animating man." There are, in fact, no grounds for the belief that natural man had any religion, or that primitive religion, when it first emerged, involved belief in a ghost-soul. It was an invention of civilized man, and in all probability it was devised in the process of building up the idea of the kingship, perhaps less than sixty centuries ago. The earliest evidence which might be assumed to prove the existence of a religious system is contained in the early Egyptian writings, in which the first god of whom we have any record is defined, according to Dr. Alan Gardiner, as a dead king. As the symbolic expression of the idea of a god is conveyed by the picture of a swathed pole, it can be assumed that the earliest god was the king's mummy, a preserved corpse which was regarded as having been reanimated by appropriate ceremonies, opening the mouth, incense-burning, pouring of libations, and a series of ritual dances, dramatic plays, and songs and games. In their books *First Player* and *Here We Go Round*, Mr. Ivor Brown and Miss Evelyn Sharp have given brilliant expositions of the meaning of the earliest plays and dances respectively.

The conception of the mummified king, Osiris, as the first god is not to be regarded, however, as in any sense comparable with such ideas as we associate with religion. It was rather an application of the rational science of the time to the needs of the people. The king who had first introduced the practices of agriculture and irrigation, and had achieved the impressive miracle of increasing the supply of food,

was regarded as a superior being, one who not only provided protection and sustenance to his subjects, but also conferred life-giving properties on the water of irrigation and on the dead seed revived by it. The king was the giver of life. When he died, and the embalming of his body was believed to prolong his existence, he was apotheosized and he became a god, whose powers of creation and life-giving transcended even those he commanded as a living king. Such seem to have been the results of the first attempts made by man to interpret the phenomena of germination and reproduction, and in particular the part played by water. It was not a religion so much as an archaic biological theory, and its practical expression in a way those who applied it believed to be rational. It became religion when the progress of knowledge revealed its fallacies, and those who had adopted it as a means of protecting their lives and their means of subsistence refused to abandon so comforting a hope, and retained it as an act of faith.

All the phenomena of the river and the flood, the part played by celestial phenomena in regulating the regimen of the river as the moon was believed to control the life-giving processes in women, were drawn into the earliest hypothesis for explaining the biological phenomena. Belief in a sky-world did not develop until the sun replaced the moon as the controlling influence in the world. For although the moon was regarded as the power which regulated the processes of life-giving in women, the king was still regarded as omnipotent, the creator and giver of life to his subjects and to the corn which sustained their existence. It was not until it was recognized (by the priests of Heliopolis) that the sun provided a more

accurate measurement of the year than the moon that the dead king was identified with the sun as the controlling influence in the universe. Thus arose the idea of a world in the sky to which the dead king went to become one with the sun and to assume control of mundane affairs.

The problem of getting to heaven after death was approached by the Egyptian theologian as though it were essentially a physical proposition. How was the dweller upon earth to reach the world in the sky? What vehicle could he employ to reach the celestial realms? Speaking recently of Christian Englishmen in the twentieth century, Dean Inge is reported to have said that "a topographical heaven, so impossible scientifically, was so difficult to dispense with as an aid to the imagination." But to the ancient Egyptian, belief in such a topographical heaven was a cardinal article of faith, and the geography of the Elysian fields and the details of the path leading to it were mapped out with all the meticulous precision of a modern guide-book. The dead man was often provided with a chart to find his way along the path that teemed with difficulties and dangers.

But although there were scores of different devices for securing a safe transit to the celestial regions, there was one vehicle which from the very beginning of Egyptian history enjoyed a special reputation as the appropriate means of protecting the dead and conferring life and immortality upon him by conveying him to the other world. The Celestial Cow Hathor not only conferred life upon mortals by giving them birth: she also sustained them throughout life by giving them the divine milk, and at death she conveyed them to the sky.

The archaic story (recorded on the walls of the

tomb of Seti I in the Theban Valley of the Tombs of the Kings) describes the sun-god Re as a king upon earth who, after being rejuvenated and having his life prolonged to become a god, tires of the society of his disloyal subjects. Their disloyalty, "the Fall of



FIG. 6.—The Divine Cow Hathor conveying a Dead Man and his Birdlike "Soul" to the Sky-world.

Mankind," consisted of complaints of the king's senility, a type of gossip which was particularly obnoxious to kings in early times, because rulers whose powers were failing were executed.

Re's act of using the cow as his vehicle to escape to the sky-world seems to imply a reference to the identification of the Divine Cow with the sky and the

moon before the god became merged in the Sun to become Re.

Mummification was associated with the practice of making portrait statues of the deceased. They were believed to be animated in the same manner as the king's mummy. The earliest temple, in fact, was the superstructure of a tomb specially invented for the ritual before the statue, not as an act of worship or intercession, but for the purpose of animating the dead king and making offerings of food and drink to sustain him.

Egyptian religion centres around the dead king Osiris or his manifestation as Re, the personification of his solar powers.

Two quotations from the Papyrus of Ani, a recension of the Book of the Dead, and a text published in the *Zeitschrift für ägyptische Sprache* will explain the Egyptians' idea of Osiris.

" . . . Thou makest plants to grow at thy desire. . . . Thou art the chief and prince of thy brethren, thou art the prince of the company of the gods, thou stablishest right and truth everywhere. . . . Thou art exceeding mighty, thou overthrowest those who oppose thee, thou art mighty of hand, and thou slaughterest thine enemy. . . . Thou hast made the earth by thine hand, and the waters thereof, and the winds thereof, and the herb thereof, all the cattle thereof, and all the four-footed beasts thereof." (Ani lii.)

" The earth lies upon thine arm, and its corners upon thee even unto the four pillars of heaven. Dost thou stir thyself, the earth trembles . . . and (the Nile) comes forth from the sweat of thy hands. Thou providest the breath out of thy throat for the nostrils of mankind. Everything whereby man lives, trees

and herbs, barley and wheat, is of divine origin, and comes from thee. . . . Thou art the father and mother of mankind, they live by thy breath, they eat the flesh of thy body." (Z.a.S. 38, 32.)

The last phrase, often interpreted as evidence of cannibalism, may mean nothing more than the use for food of barley and wheat, which were regarded as being sprung from the body of Osiris, who is represented as saying "I am barley." Obviously this is the prototype of the Christian Eucharist.



FIG. 7.—Drawing from Book of the Dead to illustrate the Germinating Osiris (after Rosellini).

Sir Wallis Budge tells this story of the beliefs of the modern Egyptians (*The Book of the Cave of Treasures*, pp. 18 and 19) :—

"The Copts have a remarkable legend about the origin of wheat. . . . Then our Lord took a little piece of the flesh of His divine side, and rubbed it down into small pieces, and showed them to His Father. When God saw them He said to His Son, 'Wait, and I will give Thee some of My own flesh, which is invisible.' Then God took a portion of His own body, and made it into a grain of wheat, and He sealed the grain in the middle with the seal wherewith He sealed the worlds of light, and then gave it to our Lord and told Him to give it to Michael, the archangel, who was to give it to Adam and teach him how to sow and reap it."

Osiris was not only regarded as the creator of the world and of life, but was identified with the Nile, the earth, and the barley.

The Pyramid Texts, the earliest literature that has come down from antiquity, tell us that the dead king causes the inundation of the Nile. The original King of Egypt must have been credited with this power.

Out of their speculations on the phenomenon of water giving life to barley the Egyptians formulated the idea (afterwards adopted by the Ionian philosophers) that all life came from the primordial ocean, by which they meant the Nile. They also claimed that the god Ptah (a Memphite surrogate of the mummiform Osiris) brought up the original land from beneath the waters, which in the beginning was merely another way of saying that the god caused the waters of irrigation to subside and so created the dry land. This account of the creation was destined to spread far and wide and to assume picturesque forms in Japan, Oceania, and America. In his *Gods and Men* Dr. W. J. Perry has cited the interesting evidence relating to this fishing up the land. The Egyptians gave practical expression to this theory of creation by making in their temples, such as those of Heliopolis, Memphis, and Thebes, pools representing the primordial ocean, which played an important part in their ritual. By the pretence of imitating the process of creation, the priests assumed that they were providing the king's subjects with new life and prosperity. They believed that the Sun-god emerged from the pool on New Year's Day, the day of the Nile flood. The Egyptian mound and pool were the prototypes of similar features of the Indian temples, but in Egypt alone is the explanation forthcoming. The primordial ocean was the inundation of the Nile,

the source of all life. The mound was the original land, the first to appear when the waters of the flood began to subside.

The evolution of the idea of god is clear in Egypt. The Pyramid Texts of the Fifth and Sixth Dynasties leave no room for doubt that at first the god was merely the king who had died and been mummified. This happened "in the days before the sky was separated from the earth," that is, before the sky-world was invented by them.

In his remarkable book *Gods and Men*, Dr. W. J. Perry has analysed and compared the religious ritual recorded in the ancient Indian writings (Brahmanas) with the folklore of a North American Indian tribe (the Pawnee) and has been able to demonstrate the fact that their religious conceptions are founded on the early Egyptian speculations.

He calls attention to the fact that in many outlying parts of the world, far remote from the original home of civilization, the distinctive features of Egyptian belief emerge in places where they can have no intrinsic local significance. In many of these places it is said that in the beginning the people were taught by sky-beings to perform rituals in imitation of the creation. In ancient India the ceremony of consecration of the king, which still survives in some of the neighbouring countries, was an imitation of the original creation of the world, according to the speculation devised in Egypt. The king was the incarnation of his country. He was identified with the State in a much more complete and literal sense than was Louis XIV of France when he made his boast. The king could not exercise his powers merely by virtue of his royal birth, or by marrying the queen, who alone could confer upon him his right to reign, but

must be consecrated by a ceremony which represented the accepted theory of creation. This was supposed to confer upon the king the powers of creation—that is, life-giving—which were regarded as essential for the performance of his kingly duties.

The king acts as a creator in the consecration ceremony. This ritual contains certain minor rites, the aims of which are to create food for his subjects, in the shape of plants and animals. The king is also endowed, at his consecration, with the magical power necessary to maintain the health of crops and cattle. He is a magical Giver of Life. In his person he incarnates the prosperity of the State.

The king also is supposed to make his subjects in imitation of the original creation. During the course of his consecration ceremony he pays a round of visits to the chief personages in the land to inaugurate the organization of the State, and so to make it a definite unity centring round himself.

This procedure is revealed in the original ceremonial of such American Indians as the Pawnee, in which the various groups of the tribe arrange themselves round the chief like the gods of the sky. The ancient State in India, as in other countries, had a system that was laid down by regulation. Everything had to conform to this arrangement of the State, of which the king was the centre. Remove him, and very little else remains.

He is also made into these various gods. Since these gods personify these various aspects of the kingship, it follows that they are nothing more than the result of a process of budding-off. The kingship has various aspects: the king is made divine under each aspect: so the various ceremonial aspects of the kingship take on personalities, and we have Indra,

Varuna, Mitra, and the rest. As these gods are all solar deities, there is yet another link with the kingship, which is solar. The king makes himself into a sun-god, the son of Aditi, the Mother Cow. It is essentially a monotheistic conception of the kingship, but one with many well-defined attributes.

The earliest religion was really a monotheism. The appearance of polytheism is suggested by the fact that the various attributes of the one god were often personified in a series of gods. In Egypt Osiris in his solar aspect became Re, in his aspect of creator as Khnum, as a recorder he becomes Thoth, and so on. In India the king, during his consecration, makes himself divine, he becomes a god; and, at the same time, he makes himself into the son of Pragapati (the Indian Osiris). The gods themselves are said, in other texts, to be the sons of Pragapati, and thereby are equated with the king.

The original person who is remembered as Pragapati, the Lord of Production, is therefore the father of a king. This king's father was a creator, and he made the gods.

The texts of the Indian Brahmanas say that the gods did not acquire their godhead until they gained access to the world of the sky. The king attains the sky during his consecration. He and his wife climb a seventeen-sided post. The king raises his head above the top of the post, and proclaims that he has reached the world beyond the sky, and has secured a prolongation of life and become a son of Pragapati, that is to say, a god. So he seems to become a god by becoming immune from the risk of death, which is accomplished by reaching the sky.

The Brahmanas are shot through and through with the notion of prolongation of life. The

priests declare that immortality is the highest thing in the universe. Whole rituals are devoted to its acquisition. The building of the Fire-Altar is for the sole purpose of ensuring for the king an imperishable body in the life to come beyond the skies. The means adopted is that of raising a golden man, and a gold plate, by means of the great brick falcon, to the skies, the source of life and immortality. Gold is immortal life, say the Brahmanas, with a persistence that is almost wearisome; therefore it is used to gain immortality for the king.

The references already made to the writings of Sir Edward Tylor are typical of the speculations that pretend to explain how primitive man came to believe that he had an immortal "soul" which persists consciously after death. The fact that the king had to go to enormous expense of time and substance to acquire immortality shows that this facile mode of argument is utterly irrelevant. The king acquired immortality in what might be termed a mechanical way. He actually made an immortal body in which he might dwell after death. Failing this enduring body he could not gain immortality. Early men acquired immortality by their own efforts, and not simply by imagination. In every part of the world where the evidence is available early religion conforms to the same essential type. It is based, not on any assumed instinctive idea of the possession of a soul or craving for a future life, but upon an arbitrary conception of a king who has control of the processes of life-giving and is competent to protect his people from the risks of death.

How this fundamental principle became transformed in the development of the various religions does not come within the scope of this book. In

reviewing the history of religion it is essential not to neglect the important facts that have emerged. The whole conception of a sky-world, of the supreme god identified with the sun in the heavens, of his son as the reigning king on earth, the idea of his birth after a miraculous conception, and the peculiar features of the consecration of a king by the ritual imitation of what was supposed to have happened at the Creation—all these beliefs, as well as the stories of the deluge, the creation of the earth, and the ascent of the Son of the Sun-God to heaven, which represent the essence of the life-giving rituals of every religion, developed in Egypt as the result of speculations on the part of the priests of Heliopolis attempting to explain certain natural phenomena distinctive of one particular place in Lower Egypt.

CHAPTER VIII

THE DIFFUSION OF CULTURE

"Science has fulfilled her function when she has ascertained and enunciated truth; and were these pages addressed to men of science only, I should now close this Essay, knowing that my colleagues have learned to respect nothing but evidence, and to believe that their highest duty lies in submitting to it, however it may jar against their inclinations."

THOMAS HENRY HUXLEY, *Man's Place in Nature*.

IN the course of the preceding chapters I have called attention to the fact that for untold ages men were content to lead a nomadic life, free and untrammelled. Then, in the fourth millennium, the existence of a peculiar combination of circumstances was responsible for leading the inhabitants of the Valley of the Nile to create a state of organized society and eventually the first civilization in the history of the world. What we have now to study is the means by which some of the elements of that civilization, and the social and political organizations that formed an integral part of it, were subsequently diffused over the surface of the globe.

For a correct understanding of the principles involved in the spread of culture it is essential that we should face as fully as possible the elementary facts of human nature. Men are by disposition not prone to adopt customs and beliefs which they do not understand, and this is especially the case when there happens to be nothing intrinsically attractive about them. As a consequence, in the vast majority of cases, mere intercourse between peoples of different

cultures is not by itself sufficient to bring about the adoption of alien practices. Before a real diffusion of culture can be effected, such novel ideas must be introduced into the new region by a group of immigrants who settle there and actually proceed to live according to their own customs, customs which themselves gradually became altered in character through the influence of new circumstances and different economic conditions. In fact, in the course of such transmission the character of the alien culture may itself be profoundly modified, even to the point of assuming a form distinctive of its new home. Abundant illustrations of the processes involved in such diffusion are provided by the spread of religions like Mohammedanism and Buddhism to peoples who differ profoundly in respect of racial type and cultural development.

The argument of the preceding chapters suggests that when the Egyptians first began to lay down the foundations of civilization, the remainder of the world was still enjoying the absolute freedom of a nomadic existence without possessing anything which could properly be described as "culture." Consequently when the Egyptians went abroad and took with them the new ideas and institutions which they had evolved, they found themselves at the beginning called upon to deal with nations who were not in a position to offer them in exchange anything which in any way corresponded to the features of their own civilization. There was, of course, plenty of raw materials available, and in particular types of commodities like timber, resins, gold, and copper, which, although the Egyptians themselves had created a value for them, were not regarded as valuable by the indigenous peoples concerned. So that there was at first no question

of trade or barter. It was a question, rather, of exploitation: the immigrants simply took possession of the unappreciated products of the land, the inhabitants never having heard of such a thing as a system of barter. Obviously this state of affairs could not normally persist for long. The local population would naturally in course of time discover the value of the produce of their country and would become familiar with the practices of bartering and trade. Later still, when they had assimilated elements of Egyptian civilization to the point of creating a type of civilization distinctive of their own country, the effects of such cultural contact would become modified. For it is evident that once a state has built up its own culture, its customs and practices tend to become rigidly stereotyped, with the result that it becomes far less susceptible to outside influence than it was at the beginning. On the other hand, when a high level of civilization has at length been attained, and the people have reached the stage of trafficking far and wide to secure the commodities of which they feel a need, they are again in a position to assimilate fairly readily the practices and institutions of other cultures. Such an importation of foreign elements provides the most potent stimulus, not only for the advancement of learning, but also for progress in the widest sense of the term. Nevertheless, it is important to remember the fact that such progress is invariably the work of enlightened individuals who are imaginative enough to take advantage of the favourable opportunities provided by cultural interfusion. Bearing in mind these general considerations and in particular the importance of the human factor involved in the process of transmission, let us turn now to consider the concrete evidence for the fact of culture diffusion.

The increasing complexity of the social organization which was being built up in Ancient Egypt created in the most natural possible manner a demand for materials from abroad. Even before 3500 B.C. the Egyptians had begun to send expeditions to foreign lands. In their search for raw materials for their arts and crafts, they had penetrated to the Sudan, to Sinai, to Syria, and to the Red Sea coast. This was the beginning of the process which led in the course of the succeeding forty centuries to the elements of the original Egyptian culture being distributed over an increasingly wide area, until finally they penetrated to the furthestmost regions of the earth.

In this process trafficking by sea played a prominent part, and it was a matter of the utmost significance that both shipbuilding and the art of navigation were developed on the Nile.¹ It is important in this connection to bear in mind that the fact that Egypt was a settlement on the banks of a great river made it incumbent upon the inhabitants of the country to employ boats to maintain communication between the two banks. Moreover, it must be remembered that the river was the great highway which linked together the village communities scattered along its course, and which served to weld them into a unified State. The diffusion of culture within the different parts of Egypt itself was accomplished by means of navigation.

From early times Egyptian sailors had extended their journeys far away to the south into the Sudan, where, as Professor George A. Reisner has shown, groups of Egyptians were engaged in exploiting the gold, the ivory, the ebony, and the gum of the region. These Egyptian colonies are known to have employed local workmen to labour for them, and in course of time

¹ See *Ancient Mariners*, by C. D. Forde.

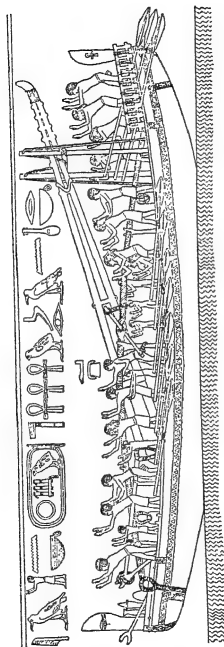


FIG. 8.—The Chief Instrument of Diffusion.

The earliest representation of a sea-going ship. From the Egyptian tomb of Sahuré (*circa* 2700 B.C.). (After Borchardt, from Daryll Forde's *Ancient Mariners*.)

these alien craftsmen so modified the Egyptian practices that they assumed a distinctive character of their own.

As shipping and the practice of carpentry developed in Egypt the need was felt for better timber than that which was provided by the local woods and forests. Hence, even before 3000 B.C., Egyptian sailors, taking their courage in both hands, had the temerity to launch their ships upon the open sea and make voyages to Syria in search of timber. This traffic persisted for many centuries, in the course of which the Egyptian colony inoculated the whole of the Levant with the elements of their civilization. By the third millennium, when the value of metals became more fully appreciated, the Egyptians and the Syrians, who were by that time developing their own characteristic types of civilization, were already obtaining metals from the region of the Taurus and probably from Anatolia as well. They were also in close contact with Crete, whose civilization Sir Arthur Evans has shown to be intimately connected with that of Egypt.

While these momentous events were taking place in the Mediterranean, the Red Sea was also the scene of great maritime activity, an activity which was fraught with far-reaching significance. As we have seen in Chapter IV, from the very beginning of the Predynastic period in Egypt and Nubia (probably before 4000 B.C.), the dwellers on the banks of the Nile maintained a continuous traffic across the Eastern Desert to the Red Sea. It is probable that before the time of the First Dynasty Egyptian sailors were engaged in maritime adventures as far south as the Bab-el-Mandeb, Somaliland, and Southern Arabia, for the purpose of obtaining incense, gold, and the

produce of East Africa. There are reasons ¹ also for supposing that in Protodynastic times the exploitation of Southern Arabia had led the Egyptians beyond Oman into the Persian Gulf, at the upper end of which they formed a colony, so providing Sumer and Elam with the nucleus of their original cultural capital. The reasons why these explorers settled near the head of the Persian Gulf are not completely clear: it may have been that they were interested in the copper ores of Elam, or the determining factor may have been the circumstance that Mesopotamia was the avenue through which the supply of lapis lazuli reached Egypt. But the evidence suggests that between 3000 and 2800 B.C. the civilization of Egypt was exerting its influence in Sumer both down the Euphrates river, by way of the Egyptian colonies in Syria and Anatolia, and by the southern maritime route. (See Map, p. 103.)

The Sumerian and Elamite cultures so closely resembled that of the Protodynastic Egyptians—in respect particularly of burial customs, the use of copper and linen, pottery and stonework, the methods of irrigation and agriculture, the religion, and the cow and moon symbolism—that no one now questions their common origin. But since the Egyptian civilization is definitely several centuries older than the Sumerian and certainly developed on the banks of the Nile (as the part played by mummification in stimulating not only the arts and crafts, but also the essential customs and beliefs demonstrates), there can be no doubt that the diffusion passed mainly from Egypt to Sumer and not in the reverse direction. Once it took root and began to develop it became sharply differentiated from the parent growth and

¹ I have given them in *Human History* (1930).

acquired those distinctive features which we refer to as Sumerian or later Babylonian. Similarly the Elamite civilization evolved its own peculiar characteristics.

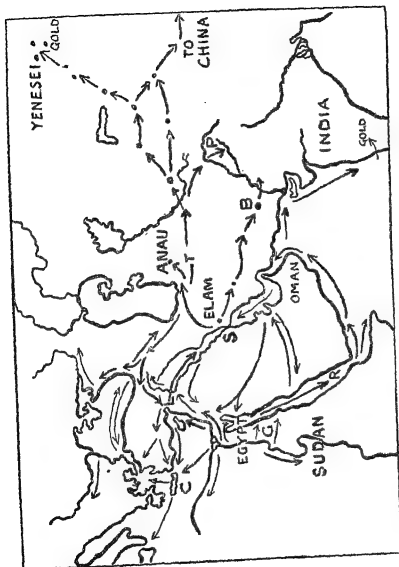
These two centres of culture near the Persian Gulf soon began to extend their influence far and wide in Asia—north to Turkestan and the regions east and west of the Caspian Sea, and east to Baluchistan. Both the dates of these expeditions, which have left archæological remains at Anau in Turkestan, at Nal in Baluchistan, and in India, and the motives for undertaking them are known to us with some precision. From about 3000 B.C. the Elamites were searching far and wide for gold and copper, lapis lazuli and jade, and before 2500 B.C. many centres of colonization had been created in the region extending from the Caspian to the Punjab and the Sind Desert. During these same centuries ships of Egyptian type are known to have been trafficking in the Indian Ocean, and it is probable that maritime links had already been established between the Persian Gulf and the Western Coast of India. At any rate, the great megalithic

NOTE ON MAP OPPOSITE

Egypt's contact with the Red Sea (R) was intensified by the search for gold in the Eastern Desert (G): the same motive led to the exploitation of the Sudan. The arrows also show the directions of Egypt's communication by land and sea with Syria (L), by sea with Crete (C), with Sumer (S) by way of Syria (L) and by water, via the Red Sea (R) and around Arabia.

From Elam early in the third millennium B.C. there was a spread of culture to Turkestan (ANAU) and Baluchistan (B), from which the diffusion was effected into the Punjab (P) and the lower valley of the Indus; and later to the heart of Siberia (YENESEI) and to China. Note also the sea-borne traffic to Southern India in quest of gold.

It is not certain that the diffusion to India, Siberia, and China was as early as 2500 B.C. (see Map, p. 108).



MAP TO ILLUSTRATE THE DIFFUSION OF CULTURE BEFORE 2500 B.C.
(See opposite page)

culture that was introduced into Hyderabad and Mysore by those miners who so actively exploited the gold of that region of Southern India, seems to have no very intimate connexion with the Northern Indian civilization that came by the land route from Elam to the Punjab and Sind.

From Turkestan the civilization of the gold-seekers rapidly spread north to the heart of Siberia, where a great colony settled at Minusinsk at a date which can be roughly estimated at 2500 B.C. At the same time another wave of this diffusion spread east, mainly along the Tarim Valley, until it reached its terminus in the Shensi province of China. The colony that settled there on the site of the present capital of the province was engaged in working the local deposits of gold, copper, and jade, but incidentally it was planting in China the germs of Western culture, germs which provided the stimulus to the development of the distinctive type of civilization which we characterize as Chinese.

We have already seen the way in which India received the elements of Western culture both by land and sea. The type of civilization that developed in Southern India exhibits many marks of an original Egyptian inspiration, although the Egyptian elements are intimately interwoven with others of Mesopotamian origin. Long before these Western elements were completely assimilated and had acquired a distinctively Indian character, the stream of cultural diffusion had passed further east to Burma, Siam and Cambodia, and the Malay Archipelago. The whole of the Indo-Chinese area became the scene of a blending of the influences of India and China: but in addition, for the reasons which I have just indicated above, many elements of culture suggestive of

Egyptian and Babylonian influence were also present, not a few of them being features that have not survived directly either in India or in China. It is important to remember that none of these waves of cultural diffusion took the form of a simple process limited to one period of time. The great civilizations around the Eastern Mediterranean continued to exert a fluctuating influence on India for many centuries to come.

The high civilization that developed in Greece in the course of the millennium before the Christian era was inspired by influences from Crete and Asia Minor and represents the effects of the merging with them of Egyptian, Syrian, and Mesopotamian civilizations, which, by the very fact of such admixture, were stripped of hieratic restraints, and so became free to develop in an essentially rational manner into the high culture of Greece.

After the Asiatic expedition of Alexander the Great, the influence of the Greek civilization in India acquired a more obtrusive character and persisted, with many fluctuations, for a further ten centuries. Two phases of the history of civilization in India are of special interest to the student of the diffusion of culture—the periods known as the Gandhara and the Gupta.

It is possible that the Bactrian Greeks may have played some part in the introduction of Western influence into India: but it seems more probable that the development of early Buddhist architecture and sculpture was in a large measure brought about with the help of Greek craftsmen from Asia Minor. Further, when the Roman Empire began to exert an influence in Asia, extensive trafficking with India took place both by the land and the sea routes.

The fact of Greco-Roman influence in India until

A.D. 350, when the Gandhara epoch came to an end, is generally admitted. On the other hand, it is commonly supposed that when the connexion between Northern India and the West was interrupted by the development of the Sassanian power, Greco-Roman influence in India was totally eliminated. It is true that during the Gupta period (from about A.D. 350 to A.D. 650), Indian art reached the highest stage of its development. But it is unjustifiable to assume, as many modern writers do, that because direct connexion with the West was cut off, Greek culture had ceased to play any part in India. It is more in accordance with the facts to regard the Gupta culture as the product of the Gandhara. The Greek influence at work in the latter had become gradually assimilated, to form a new compound, distinctive of India, which we describe as the Gupta phase of culture. But its vitality was due partly to the adaptation of the alien culture to the Indian environment, and to the wider appeal which was made by this adapted art to the native genius in virtue of the fact that it had assumed a distinctively national character.

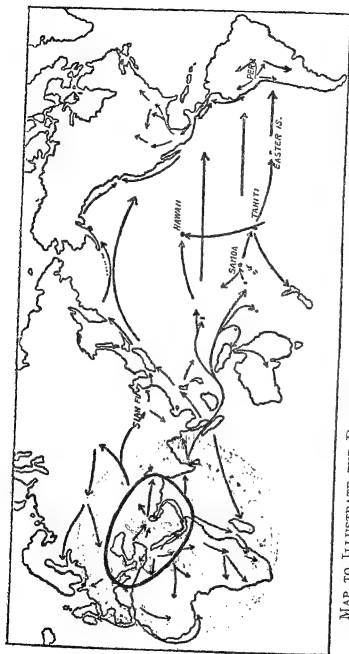
The Gupta epoch witnessed the highest expression of art in India. Its influence spread far afield, to Ceylon and Burma, to Siam and Cambodia, to China and Japan, in which last region it played a very prominent part in stimulating the glories respectively of the T'ang and the Nara epochs. This great wave of cultural renaissance swept not only along the whole Eastern littoral of Asia, but also passed by way of the islands of the Malay Archipelago (in particular Java) into the wide spaces of the Pacific Ocean. The small islands of Micronesia, Melanesia, and Polynesia were able to seize and retain only a small contribution from the rich stream that flowed across Oceania. But that

stream carried to Central America, Mexico, and the Pacific coast of South America the inspiration for the marvellous civilizations of the Mayas and Incas, which reached their fullest expression between the sixth and the twelfth centuries A.D.

We need not pause to consider the means by which the far-flung voyages of these argonauts of Oceania were achieved. In his *Ancient Mariners* Professor Daryll Forde has discussed the evidence of actual occurrences. Yet there are certain aspects of the American problem which should be mentioned here.

The original population of America reached the New World many centuries before any local civilization had begun to develop. The first immigrants entered North America from North-eastern Asia by crossing Bering Straits. The first elements of culture may have been introduced into America—both by the northern coastal (Aleutian) route, as well as across the equatorial belt of the Pacific—as early as the beginning of the Christian era. But it was not until the eighth or ninth century A.D. that the great stone pyramids of Cambodian and Javanese types were constructed in America.

In an earlier chapter we have seen that the rival ethnological theories which are to-day current derive their character from a discussion which first took place in the eighteenth century. This discussion centred round the problem of America. The similarity of the civilization of the New World to that of the Old was interpreted in 1777 by Principal Robertson as constituting evidence for the theory that culture was developed independently at different points on the surface of the globe through the similarity of the innate disposition of the human mind. Baron von Humboldt, however, in 1815 would have nothing to



MAP TO ILLUSTRATE THE DIFFUSION OF CULTURE BEFORE THE TENTH CENTURY A.D.

At the end of this period Eric the Red travelled to Greenland and America and so inaugurated the era of world-wide exploration and colonization by Europeans. The thick oval line represents the extent of the area certainly influenced by Egyptian civilization before 2500 B.C. (compare Map, p. 103). The general trends of secondary diffusions after that date in Africa, Asia, Europe, Oceania, and America are suggested by the arrows.

do with such scholasticism, and interpreted the resemblance as evidence for the diffusion of culture from Eastern Asia to America.

For a hundred and fifty years ethnologists have been discussing this issue without reaching any general agreement. The American problem remains the crux of the whole dispute regarding diffusion. Yet nobody, I think, who has freed his mind of the scholastic formula, the fallacy of which was exposed by Turgot in the eighteenth century, and who studies the history of these controversies in the light of the exact information which is now available, can fail to be convinced of the significance of the facts. Not only from North and South America and Oceania, but also from Java and Indo-China and further west, there is available an overwhelming mass of exact evidence to convince him of the derivation of the cultural capital of America from South-eastern Asia. Once this fact is admitted the case for the reality of the general principle of the diffusion of culture is sufficiently established.





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